

Corrigendum - 08 dated 27/02/2026 to CPC Tender No. BHEL/CPC/FA/C CIVIL STR/26/077

**Corrigendum - 08** to Tender for the work of “Framework Agreement for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India.”

**A) Following Clause of TCC has been modified**

Sl. No	Tender Clause	Existing Provision	Amended as
1	Clause no. 2.3 of TCC	<p>BOQ Cum Rate Schedule shall also include items for “Providing T&amp;Ps On Rental Hiring Basis” and “Providing Manpower for Miscellaneous Works at Project Sites on Request of BHEL Site-in-Charge”.</p> <p>The engagement of Tools &amp; Plants (T&amp;Ps) and manpower for the activities covered under the awarded scope of work shall be deemed included and will not be paid separately. However, if during execution it becomes necessary to deploy T&amp;Ps and manpower for additional work in other areas within the same premises, such deployment shall be carried out at the hiring rates specified in the Bill of Quantities (BOQ).</p>	<p>The BOQ item for execution of Balance Civil, Structure and Architecture Works are deemed to include all requisite Tools &amp; Plants (T&amp;P) and Manpower, necessary for proper and complete execution of the work. Bidders shall quote their rates accordingly after duly considering the same, and no separate claim on this account shall be entertained</p> <p>In addition to above, separate BOQ items (Refer Item No. T&amp;P-1 to T&amp;P-7 and MP-1 &amp; MP-2) provided in BOQ Cum Rate Schedule for Providing T&amp;P/Manpower only. The T&amp;P/Manpower so arranged under this provision may, at the discretion of the BHEL Engineer-in-Charge, be issued or made available to other vendors/contractors working at the project site for execution of their respective works</p>

**B) Some of the Bidders had asked queries in the published tender specification. The clarifications issued by BHEL are furnished below**

Sl. No.	Tender Clause	Bidder's query	Clarification
1	Clause no. 3.6 of TCC	MOB AND DEMOB to be given by BHEL in case order value less than 2 Cr	Tender conditions shall prevail.
2	Clause no. 2.3 of TCC Read with BOQ Tnp_1-7	Rental is mentioned in days, it should be on month basis as short daily rental is not possible.	Refer Amended clause at Sl. No. A.1 of this corrigendum

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<b>Sl. No.</b>	<b>Tender Clause</b>	<b>Bidder's query</b>	<b>Clarification</b>
3	Clause no. 2.1 of TCC	Request to bifurcate the BOQ into two parts 1 part for Civil +Arch & another for structural Steel. As major part of contract is BOP or odd jobs in nature as per tender description.	Refer Revised BOQ Cum Rate Schedule at Annexure 1 & Revised Package wise Quantities at Annexure 2 of this Corrigendum
4	BOQ	Concrete shall be supplied by BHEL free of cost along with transportation free of cost as there is no separate item for monthly rental for batching plant & Transit mixer and DG. Given the open nature of contract it is impossible to determine how much qty will be used in any Particular project based on which we can assume concrete rates i.e. Mix cost & Trp cost .	Refer Amended clause at Sl. No. A.1 of this corrigendum  Refer Revised BOQ Cum Rate Schedule at Annexure 1 & Revised Package wise Quantities at Annexure 2 of this Corrigendum. Please refer Differential Cost for basic raw materials of Different Project given in ANNEXURE-C of tender documents.
5	Clause no. 3.10.1 of TCC	Accommodation for labour to be provided by BHEL in its labour colony as quantum of work is not defined and it may not be feasible to construct them and accommodate the same in cost in item rate. OR a separate item for mobile container accommodation unit to be incorporated to be paid separately for each site.	Refer corrigendum-5 dated: 17/02/2026
6	Clause no. 4. Of TCC	All TNP Should be separately billed on rental items as there is no conformity to scope and also site conditions or requirements. Separate ITEM for BP to be created or to be provided by BHEL free of cost.	Refer Amended clause at Sl. No. A.1 of this corrigendum

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<b>Sl. No.</b>	<b>Tender Clause</b>	<b>Bidder's query</b>	<b>Clarification</b>
7	General	Manpower rate variation WRT to minimum wage of central and state legislation as per latest labour code has not been address sufficiently in the contract as rates ARE DIFFERENT for different states and location.	Tender specification shall prevail. Bidder to quote accordingly.
8	Clause no. 2.14.1 of GCC	Please clarify in case mother contract variation is allowable +-15% or not and in child contract 30 +- . Please confirm if the undertaking is correct.	Tender specification shall prevail.
9	Chapter VI of TCC	It is not clear how to arrive at time frame of execution of an particular job, in such case LD clause shall be waived off or time frame shall be as per mutual consent after visiting at site .	Refer corrigendum-5 dated: 17/02/2026
10	Clause no. 1.10 of GCC	Security Deposit: Kindly confirm that the successful Tenderer shall have to deposit 5% of the Respective Work Order value as Security Deposit and not on the total value of the Rate Contract.	It is confirmed that successful tenderer shall have to deposit 5% of the Respective Work Order value (as issued from PS regions) as Security Deposit and not on the total value of the Rate Contract.

**Note:**

- 1) All other terms and conditions against this Tender shall remain unchanged.
- 2) This corrigendum is to be submitted duly signed and stamped along with the Techno-commercial bid (Part- I).

**for BHARAT HEAVY ELECTRICALS LTD**

**Sr MANAGER / SCT- CPC**

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	% WEIGHTAGE (UPTO 10 DECIMAL POINT)
100	EARTH WORK: Earth work In excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer- in-charge for the following.					
A101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	87500.00			0.5771456511
b	Depth exceeding 2 m but not exceeding 4 m	CUM	52500.00			0.4340767892
c	Depth exceeding 4 m but not exceeding 6 m	CUM	17500.00			0.1808635724
d	Depth exceeding 6 m but not exceeding 8 m	CUM	10500.00			0.1357628361
e	Depth exceeding 8 m but not exceeding 10 m	CUM	3500.00			0.0543358429
f	Depth exceeding 10 m but not exceeding 15 m	CUM	3500.00			0.0624978797
A102	Extra over ST No. A101, A103, A105 & A106 for dewatering of ground water by sump pump method as per IS 9759. Ground water table shall be lowered up to 1 m below the founding level to make the site workable for foundation construction till backfilling up to ground level. Mode of measurement shall be the quantity of excavation of soil including ash below ground water table to founding level of the footing.	CUM	50000.00			0.7356021956
B102	Removal of slush / muck from excavated pit, trenches or foundations, including collection, loading, transportation, unloading and disposal of the same to designated disposal area within a lead upto 1Km, complete in all respects as per directions of Engineer-in-Charge.	CUM	5000.00			0.0695693494
A103	Earth work in excavation in soft rock (rock without any recovery of excavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	10000.00			0.0978247834
b	Depth exceeding 2 m but not exceeding 4 m	CUM	30000.00			0.3521463266
c	Depth exceeding 4 m but not exceeding 6 m	CUM	20000.00			0.2817162584
d	Depth exceeding 6 m but not exceeding 8 m	CUM	10000.00			0.1690315090
e	Depth exceeding 8 m but not exceeding 10 m	CUM	4000.00			0.0777537293
f	Depth exceeding 10 m but not exceeding 15 m	CUM	400.00			0.0085528536
A105	Earth work in excavation in hard rock requiring controlled blasting including wedging, line drilling, pre shearing etc as required, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, shoring & strutting (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	1000.00			0.0323892272

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b	Depth exceeding 2 m but not exceeding 4 m	CUM	5000.00		0.1944006866
c	Depth exceeding 4 m but not exceeding 6 m	CUM	7500.00		0.3437592872
d	Depth exceeding 6 m but not exceeding 8 m	CUM	5000.00		0.2749968810
e	Depth exceeding 8 m but not exceeding 10 m	CUM	2500.00		0.1580351943
A106	Earth work in excavation upto any depth below ground level in hard rock requiring chiselling including wedging, line drilling, pre shearing etc as required for grading, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, stacking/disposal of surplus excavated material within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.				
a	Depth from ground level but not exceeding 2 m	CUM			
b	Depth exceeding 2 m but not exceeding 4 m	CUM			
c	Depth exceeding 4 m but not exceeding 6 m	CUM	1000.00		0.0484850579
d	Depth exceeding 6 m but not exceeding 8 m	CUM	500.00		0.0290911197
e	Depth exceeding 8 m but not exceeding 10 m	CUM	500.00		0.0334546048
f	Depth exceeding 10 m but not exceeding 15 m	CUM			
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250mm/300mm thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.				
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	26250.00		0.1790814554
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	8750.00		0.0656632003
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250mm/300mm thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.				
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	39375.00		0.2283284604
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	26250.00		0.1674408710
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.				
a	Carriage for stacking/ backfilling of serviceable material/ earth	CUM	52500.00		0.0456395271
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	45000.00		0.0391195947
110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness so as to achieve required compaction with approved borrowed soil available within a lead of 10 Kms (borrowed soil to be arranged by the bidder) and compacted as specified including supplying boorowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer. Note: carriage of borrowed soil shall be payable as per BOQ Item No. 109a beyond an initial lead of 10 km.	CUM	5000.00		0.1245051980

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**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A111	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 300 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	8750.00			1.2554172508
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. (Cement shall be issued by BHEL free of cost unless otherwise mentioned in the BOQ Cum Rate Schedule)					
A201	Providing, transportation and placing Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	4375.00			1.3986256116
B201	Transportation and Placing Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	1093.75			0.1048969209
A202	Providing, transportation and placing Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	1750.00			0.5594502447
B202	Transportation and Placing Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	437.50			0.0419587683
A203	Providing, transportation and placing Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors, plinth protection etc. complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	7000.00			2.2378009792
B203	Transportation and Placing Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors, plinth protection etc. complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	1750.00			0.1678350734

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A204	Providng, transportation and placing Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224).	CUM	3500.00			1.1189004895
B204	Transportation and Placing Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224). NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	875.00			0.0839175367
A205	Providing, transportation and placing Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete all including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete complete as per specification & drawing below finished ground level upto a depth of 10m from FGL (For depths greater than 10m from FGL, extra over for additional depth to be paid in Item No A224), for the following.					
a	M 25 Grade	CUM	22203.00			7.3358746868
b	M 30 Grade	CUM	13125.00			4.3581543320
B205	Transportation and Placing Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete below finished ground level upto a depth of 10m from FGL including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depths greater than 10m from FGL, extra over for additional depth to be paid in Item No A224), for the following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	M 25 Grade	CUM	6562.50			0.6293815253
b	M 30 Grade	CUM	3281.25			0.3146907627
A206	Providing, transportation and placing Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing upto 10m level above finished floor level of ground floor (For height greater than 10m from FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following.					
a	M 25 Grade	CUM	14802.00			5.0205963934
b	M 30 Grade	CUM	7401.00			2.5225076021

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

B206	Transportation and Placing Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete upto 10m level above finished floor level of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For height greater than 10m from FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	M 25 Grade	CUM	4375.00			0.4451785412
b	M 30 Grade	CUM	2187.50			0.2225892706
A209	Extra over St. No. A205 & A206 for controlling of temperature of fresh concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	1000.00			0.0962249467
211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades					
b	M 25	CUM	175.00			0.0559452352
A211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
b	M 25	CUM	43.75			0.0041958768
212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at all level or thickness, drains etc complete as per following.					
a	0.043101852	CUM	1312.50			0.4195892642
A212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at all level or thickness, drains etc complete as per following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	0.043101852	CUM	350.00			0.0436371191
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					
b	M30	CUM	262.50			0.1430131792
A213	Engineering, Design and drawing of Prestressed precast boundary wall as per specification and general arrangement (GA) of boundary wall furnished by BHEL, submission of design calculations and drawings, incorporation of comments in submitted drawings/calculations to finally obtain approved design calculations/drawings for construction at site. Preliminary general arrangement of boundary wall is enclosed along with tender document for information only. Actual general arrangement shall be furnished to successful bidder during detail engineering and no extra claim by the bidder shall be entertained on account of variation between actual GA & GA furnished with tender.	LS	1.00			0.0332716430

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B213	Providing and laying factory manufactured Prestressed precast Reinforced concrete columns as per approved design and drawing submitted by bidder with design Mix cement concrete of grade M40 as per IS:456 & IS 10262-2009 using graded aggregate for Concrete in precast boundary-wall works. The work shall include cost of strands / reinforcement, formwork/moulds, provision of suitable grooves/matching key/pockets for fixing of wall panels, Y shaped MS posts for concertina etc., curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting for all leads, erection with required T&P without damage, setting in position inside foundation collar with M30 grade cement concrete with 10 mm down stone aggregates, etc all complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing.(Pockets/embedded plates for fixing of Y shaped MS posts for concertina shall be provided as per drawing, embedded plates, concertina and Y shaped MS post to be paid separately as per item no 2006/2007/2008). Bidder has to manufacture precast columns at factory equipped with required prestressing equipment and transport to site & store at identified location. Cost of transportation from factory to site etc. is included in this item. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FOR FACTORY MANUFACTURED PRE-CAST WORKS. (Payment Terms - a) For manufacturing of Prestressed Precast Columns - 40%, b) For Transportation, shifting, erection in position, etc - 60%)	CUM	1650.00			2.3283796865
C213	Providing and laying factory manufactured Precast Reinforced concrete wall panels, copings, architectural features etc. as per approved design and drawing submitted by bidder with design Mix cement concrete of grade M30 as per IS:456 & IS 10262-2009 using graded aggregate for Concrete in precast boundary-wall works. The work shall include cost of strands / reinforcement, formwork/moulds, provision of suitable grooves/key for interlocking of panels after erection, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting for all leads, erection with required T&P without damage, setting in position with cement sand mortar (1:3), filling the gaps with cement sand mortar (1:3) , etc all complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing. Bidder has to manufacture precast items at factory and transport to site & store at identified location. Cost of transportation from factory to site etc. is included in this item. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FOR FACTORY MANUFACTURED PRE-CAST WORKS. (Payment Terms - a) For manufacturing of Precast Panels - 40%, b) For Transportation, shifting, erection in position, etc - 60%)	CUM	2250.00			2.8032638898
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.					
b	M30	CUM	13125.00			4.6867029330
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					
a	Plain cement concrete of all grades	CUM	100.00			0.0082845268
b	Reinforced cement concrete of all grades	CUM	100.00			0.0127306067
222	Cutting of groove of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	25.00			0.0001331738

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## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

223	Cutting of existing concrete/ RCC slab (total thickness upto 250mm including floor finish & deck sheet if any) inside control room/ pump house or anywhere inside boundary using power tools of (DD2E of HILTI/ BOSCH make or equivalent) with low noise and dust including cutting reinforcements, removing the rubbish within a lead of 1 km, including making good the broken edges/ surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/ supporting at all level, all complete and as directed by Engineer (measurements shall be taken as per cutting surface area).	SQM	100.00		0.0196513829
A224	Extra over item no. A201 to A205 and A214 for depth below FFL of ground floor (Finished Floor Level of ground floor) as per following:				
a	Depth exceeding 10m from FFL of ground floor but not exceeding 20m	CUM	250.00		0.0059631038
A225	Extra over item no. A206 and A212 for height above FFL of ground floor (Finished Floor Level of ground floor) as per following:				
a	Height exceeding 10m from FFL of ground floor but not exceeding 20m	CUM	1000.00		0.0298267470
b	Height exceeding 20m from FFL of ground floor but not exceeding 30m	CUM	1000.00		0.0536789617
c	Height exceeding 30m from FFL of ground floor but not exceeding 40m	CUM	1000.00		0.0715791263
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.				
A301	Fairface form work with good quality water proof ply wood with Filmface of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc. including chamfering of edges as per drawing, specification and instruction of engineer in charge.				
a	Upto Depth 10m From FGL	SQM	55507.00		2.5499265385
b	Depth exceeding 10m From FGL	SQM	437.50		0.0221209533
B301	Only Fixing of already manufactured Formwork: Fairface form work with good quality water proof ply wood with Filmface of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc. including chamfering of edges as per drawing, specification and instruction of engineer in charge. (The manufactured formwork shall be issued by BHEL free of cost and agency shall return the formwork (scrap plus usable material) to BHEL store after use)	SQM	500.00		0.0096501007
A302	Fairface form work with good quality water proof ply wood with Film face of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing. for all heights as per specification, drawing and instruction of engineer in charge.				
a	For Height Upto 20m from FGL	SQM	70308.00		3.8818155217
b	For Height More Than 20m from FGL	SQM	4375.00		0.2677391141
B303	Removing formwork at all elevations for all structures including all labour, specifications and as per direction of engineer in charge	SQM	5000.00		0.0665344048
304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.				
a	Upto 150 mm depth	EACH	100.00		0.0016539015
b	Pockets of depths more than 150mm and upto 300 mm depth	EACH	50.00		0.0013574807
c	Pockets of depths more than 300mm and upto 600 mm depth	EACH	25.00		0.0011919804
d	Pockets of depths more than 600mm and upto 1000 mm depth	EACH	25.00		0.0018501081

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

e	Pockets of depths more than 1000mm and upto 1500 mm depth	EACH	25.00		0.0026484456
f	Pockets of depths more than 1500mm and upto 2000 mm depth	EACH	25.00		0.0034906294
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.				
a	Extra for Curve Shuttering for Item No. 301	SQM	25.00		0.0002301419
b	Extra for Curve Shuttering for Item No. 302	SQM	25.00		0.0002758369
A305	Erecting, maintaining and dismantling scaffolding arrangement of required height and configuration using MS/GI pipes, couplers, clamps, joints, base plates, sole plates, braces, planks, ladders, safety rails and all other necessary accessories, complete in all respects, to enable execution of civil works at site, as per drawings, specifications and directions of Engineer-in-Charge. (Ownership of scaffolding materials lies with contractor) Payment Breakup: a) Supply & Receipt of material at site - 50% b) Execution & Services Associated with the item - 40% c) Dismantling - 10%	Cum	5000.00		0.0678982398
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:				
401	Providing, straightening, cutting, bending, placing in position at all level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00		0.1417912543
A403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer. (BHEL to issue steel free of cost)	MT	8881.00		7.0216110439
B403	Horizontal steel R/F or Stirrups are required to be fixed over already fixed Vertical R/F: Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer for the following. (BHEL to issue steel free of cost)				
a	Fixing and binding in position at any level of exposed vertical steel R/F already erected.	MT	250.00		0.0790632929
b	Fixing and binding in position at any level of Horizontal steel R/F or Stirrups.	MT	250.00		0.1976582323
C403	R/F Steel available in the form of Curtailed and Bended Conditions as per BBS at existing vendor works: Transportation, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from vendor stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer. (BHEL to issue the fabricated rebar R/F steel as per approved BBS free of cost)	MT	250.00		0.1284778510
D403	Dismantling of already fixed reinforcement steel in position, loading, transportation to designated scrap yard, unloading, etc. complete as per direction of engineer.	MT	250.00		0.0494145581

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. A403.				
a	12mm Reinforcement bar	Nos.	25.00		0.0010593428
b	16mm Reinforcement bar	Nos.	25.00		0.0017224852
c	20mm Reinforcement bar	Nos.	25.00		0.0024965176
d	25mm Reinforcement bar	Nos.	25.00		0.0033799299
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge.(Material used for roof treatment shall be CFC & HCFC free. The contractor shall submit documentary proof to GRIHA consultant in support of same).				
511	Providing and applying two coats of bitumen grade 85/25 as per IS 702 ( @ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	2500.00		0.0409649746
600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.				
601	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%				
a	12 mm wide joints.	SQM	100.00		0.0042351663
b	20 mm wide joints	SQM	500.00		0.0254001523
c	25 mm wide joints	SQM	500.00		0.0369352168
d	50 mm wide joints	SQM	100.00		0.0153828442
603	Providing and applying polysulphide based sealant conforming to IS:12118 in joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:				
a	25mmX25mm	RM	100.00		0.0035410471
b	50mmX25mm	RM	100.00		0.0065286365
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.				
a	10mm X 40mm	RM	500.00		0.0022831522
b	12mm X 25mm	RM	500.00		0.0019838382
c	20mmX25mm	RM	500.00		0.0025855778
A605	Supply and installation of Polystyrene flexible board conforming to IS 4671 ( type-1), 20 Kg/ Cum. as joint filler at joint of concrete including nailing, coating of both faces with coal tar pitch /butimen etc. all complete.				
a	100 mm thick	SQM	1000.00		0.1531891601
A610	Providing and fixing ribbed PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)				

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

b	230 mm wide and 8 mm thick	RM	100.00		0.0033079890
Ab	230 mm wide and 10 mm thick	RM	100.00		0.0038041804
c	150 mm wide and 6 mm thick	RM	100.00		0.0015313683
d	230 mm wide and 6 mm thick	RM	100.00		0.0023360698
615	Providing and fixing 300 mm wide Stainless steel strips ( Grade SS 316) over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	150.00		0.0065568594
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.				
701	Supply, fabricating and fixing/erection of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00		0.1822498633
702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	50.00		0.4494362331
703	Same as above items 701 & 702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.				
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	25.00		0.0445814517
B	Mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc.	MT	75.00		0.1402515994
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.				
a	MS pipes of all diameters	kg	175.00		0.0013028353
b	PVC pipes / conduits of all diameters	kg	550.00		0.0138045300
c	UPVC pipes / conduits of all diameters	kg	75.00		0.0023722955
d	Expansion anchor fasteners (galvanised) of HILTI make(HRD Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:				
i	8mm Dia	Nos	100.00		0.0003343729
ii	10mm Dia	Nos	100.00		0.0004302031
iii	12mm Dia	Nos	100.00		0.0005326979
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:				
i	HST3 M8	Nos	10.00		0.0001838933
ii	HST3 M10	Nos	10.00		0.0002543307
iii	HST3 M12	Nos	10.00		0.0004580622
iv	HST3 M16	Nos	10.00		0.0008062413
v	HST3 M20	Nos	10.00		0.0014007196
vi	HST3 M24	Nos	10.00		0.0028012476
f	Chemical Expansion fasteners (galvanised)of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod,nuts,washers,chemicals all complete,etc:				

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

i	HAS-E5.8 M8	Nos	10.00			0.0003590991
ii	HAS-E5.8 M10	Nos	10.00			0.0004384488
iii	HAS-E5.8 M12	Nos	10.00			0.0005594895
iv	HAS-E5.8 M16	Nos	10.00			0.0009491204
v	HAS-E5.8 M20	Nos	10.00			0.0014836594
vi	HAS-E5.8 M24	Nos	10.00			0.0020440473
800	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level , drawings and as directed by engineer - in - charge.					
801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	10.00			0.0005949503
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand ) using non shrink admixture etc. all Complete.	CUM	10.00			0.0169257809
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips ) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	100.00			0.1680149536
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	200.00			0.6434404675
805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent as per specification, drawing and direction of engineer-in-charge.(Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	100.00			0.3266179594
806	Providing Chemical (epoxy) injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved chemical, admixture, curing etc. all complete. Payment shall be made as per the consumption of chemical grout.	Kg	100.00			0.0124211704
900	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

902	Providing and fixing teak wood frame panel door shutter as per IS 1003 with 35 mm x 150 mm vertical rail & 35mm x 125 mm horizontal rail and 12 mm thick interlocked panels of teakwood with proper wood joinery including beading, preparation of working drawings, godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fitting shall be anodised aluminium color dyed), screws, primer and finish painting / polishing etc. all complete. (Finish painting / polishing paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	15.00			0.0082482875
903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partial board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.0253064906
904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, side, top & bottom edges of shutter shall be reinforced by continous pressed steel chanel with min 18G, shop and final painting etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00			0.1437697734
A904	Providing and fixing single or double steel door shutters with 35mm (min) thk flush design shutter comprising of two outer sheets of 16 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 18 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	250.00			0.2393343494

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A905	Providing and fixing electrically operated, self operable/closing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 (Grade of Aluminium shall be Alloy 63400) and anodized and electro color coating of required shade as per IS 1868 ( minimum anodized coating of grade AC15 ). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures,Dorma, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. Weight of aluminium section only shall be measured. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	20.00			0.0212064468
A906	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 2 mm wall thickness as per IS:1285, IS:733,(Grade of Aluminium shall be Alloy 63400) and anodized (15 micron coating thickness) and electro color dyed of required shade as per IS 1868 ( minimum anodized coating of grade AC15) fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear toughened glass of 8/10 mm thickness including snap fit type beading, concealed screws, fixtures, Dorma,Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 50% b) Fabrication of aluminium section for making door - 25% c) Execution & Services Associated with the item - 25%	KG	5000.00			0.2427158714
908	Providing and fixing steel windows/ventilator with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting, glazing etc. all complete. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 50% b) Fabrication of steel section for making windows/ventilators - 25% c) Execution & Services Associated with the item - 25%					
a	Openable type	SQM	200.00			0.0394052389
b	fixed type	SQM	150.00			0.0189380909

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A909	<p>Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) including all fittings &amp; fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measured.</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 50%  b) Fabrication of aluminium section for making door frame, windows, ventilators, partitions, etc. - 25%  c) Execution &amp; Services Associated with the item - 25%</p>	Kg	25000.00			1.4259045857
B909	<p>Providing and fixing aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) including all fittings &amp; fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) powder coated to required shade (minimum thickness of powder coating 50 micron ), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measured.</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 50%  b) Fabrication of aluminium section for making door frame, windows, ventilators, partitions, etc. - 25%  c) Execution &amp; Services Associated with the item - 25%</p>	Kg	20000.00			1.0370215169

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A910	<p>Providing, fabricating, designing, supplying and fixing of Aluminium composite panel cladding (ACP) in pan shape in solid or metallic colour, wooden colour, stone finish of approved shades made out of 4mm thick aluminium composite panel (weight of panel should be minimum 8.1 kg/sqmt) material consisting of 3mm thick FR grade Class A2 as per EN 13501, mineral core sandwiched between two Aluminium sheets (each 0.5mm thick BMT). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF conforming to AAMA 2605 or Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. The top coated surface of ACP shall comply with the "specification for coated coil for the exterior building application" issued by ECCA (European Coil Coating Association). The aluminium composite panel top and bottom skin should conform to Aluminium Alloy 5005 (AlMg 1) marine grade series and H 22/24 temper with mechanical properties confirming to EN 485-2 standard. The ACP product must conform to Class A2, s1,d0 as per EN-13501-1. The manufacturer must furnish the FPC and Certificate of conformity of EN13501-1 for Class A2, s1,d0 from the certifiers and Product must be supplied from the Certified Unit which has been mentioned on the FPC and COC. The panel shall be designed for 12mm groove in horizontal &amp; in verticals with close joint system. Vertical &amp; Horizontal groove shall be filled by non-staining high performance weather sealant. ACP panel shall have sub frame all around panel and aluminium stiffener profile as per structural requirements. The finished surface of ACP shall be protected with a self-adhesive (Rubber based) peel off foil with 70 microns thickness white or black, tested to withstand up to 6 months' exposure to local weather condition without losing the original peel off characteristic or causing stain or other damages on the coated surface of the aluminium composite panel. Installation of ACP Coping/facia at terrace level sealing the top gap of the parapet wall and ACP Panel shall have GI stiffeners below with required aluminium grid work with necessary MS HDG / aluminium alloy brackets &amp; SS fasteners. 2nd barrier of 1mm thk GI sheet laid continuously below the coping to seal the parapet wall. Overlap of GI sheet shall be properly sealed with weather sealant, All shade shall be as per Architect's Approval. as per approved sample from Alucobond Plus, Aludecor, Alubond, Virgo or equivalent.</p>	SQM	10000.00			3.5165115877
A910 cont..	<p>The system shall be designed to withstand a wind pressure of 200kg/Sqm or as per design requirement and shall be fixed to the Masonry/RC walls or aluminium frame with necessary clamps, brackets and anchor fasteners etc. All clamps and brackets shall be Hot dip galvanized minimum 80 microns thick and shall conform to IS: 4759-1996. The extruded aluminium section shall be anodized in approved colour with an anodic coating of minimum 20 microns. Extruded section shall be 6063 T5 or T6 alloy conforming to ASTM B221. Any other fastening straps, nuts, bolts, rivets, washers, etc. shall be in stainless steel SS316 grade. EPDM gaskets, open cell polyethylene backer rods, weather sealant etc. shall be provided as per requirement. Item shall include aluminium base frame with all fixing arrangements to wall/RC members, fastening material and hardware (fastening straps, nuts, bolts, rivets, washers etc.), EPDM gaskets, open cell polyethylene backer rods, weather sealant, scaffolding, approach to all height, material handling, transportation, labour, T&amp;P, preparation of working drawings etc. all complete as per drawing, specification &amp; instructions of engineer in charge. Measurement of payment shall be outer finished area of ACP panel. The contractor shall provide the material cutsheet/ declaration from manufacturer mentioning the recycled content used in manufacturer of ACP.</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 60%  b) Execution &amp; Services Associated with the item - 40%</p>					
911	<p>Providing and fixing of door closers as per IS 3564, of approved make &amp; quality all complete of following type :</p>					
a	<p>Over head hydraulic door closures</p>	Each	50.00			0.0072030428
b	<p>Floor mounted Hydraulic door closers</p>	Each	50.00			0.0152043206

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A912	Providing and fixing pressed steel frames(complying general requirements of IS 4351) fabricated from 1.6 mm thick M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 50% b) Fabrication of steel section for making frames - 25% c) Execution & Services Associated with the item - 25%	Kg	10000.00			0.1290609598
A913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides of 75mm wide and 3mm thick(min.) and arrangements for inside and outside locking with push and pull operation including wire springs, top/hood cover 0.9mm thick (min.) , factory galvanized, primed & field painted, partly grided (as required) with approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	Mechanically Operated	SQM	250.00			0.0777439123
c	Electrically & Mechanically operated	SQM	1000.00			0.3981101009
A914	Providing and fixing Solid core PVC doors (25 thk double skin) with PVC frame of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.0098870163
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
Ab	4 mm thick plain or tinted float glass	SQM	50.00			0.0058447694
d	6 mm thick wired glass	SQM	1000.00			0.1373217055
Ae	3mm thick Polycarbonate sheet with profile matching with metal sheeting shall be provided. The Polycarbonate sheets shall be fire and u/v resistant, and suitable for continuous use up to a temperature of 1000C. Suitable aluminium beading shall be used. The open ends of the sheet shall be sealed as per manufacturer's recommendations .	SQM	250.00			0.0361609200
Ag	6 mm thick tinted heat reflecting toughened type float glass	SQM	100.00			0.0154604797
h	6 mm thick clear toughened safety glass	SQM	100.00			0.0163742960
h(a)	6 mm thick clear reflective toughened safety glass of Saint Gobain(India) or Asahi (India) or equivalent make and should have solar factor 25% or less, Maximum U-value 3.3W/SQMK, VLT min 30%, light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25-0.28),values varies as per manufacturer specifications.	SQM	1000.00			0.2038440493
Ah	6 mm thick clear toughened glass conforming to IS 2553.	SQM	2000.00			0.3271662597
AhB	8 mm thick clear toughened glass	SQM	250.00			0.0529993986
AhC	8 mm thick clear toughened fire resistant glass	SQM	175.00			0.1732850036

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	300.00			0.0841071672
I(a)	composite double glazing, 25 mm thick 2 hr fire rated, with one outer 6 mm thick tinted heat-reflecting type toughened glass and one inner 11mm thick clear toughened glass hermetically sealed and seperated by 8 mm thick gap for thermal insulation (only single elevation area to be measured) with suitable frame of min 1.6mm galvenised steel sheet. The glass to be used should be from the manufacturers of glass like Glavebel (Belgium), Saint Gobain (France) or Fort (USA) Or equivalent. The glass should be free from distortion and thermal stress.	SQM	100.00			0.1947393504
I(b)	composite double glazing of fire resistant glass MIN.30 mm thick Hermetically sealed double glazed unit of one Fire resistant glass of min.14mm thick (outer side) clear, toughened, interlayered glass with 120 minute fire rated for both integrity & radiation control (EW 120) with symmetrical (Bi-Directional) fire protection and 6 mm thick toughened tinted glass (Inner side) with 10 mm air gap etc all complete as per specification.	SQM	100.00			0.2046413418
I(c)	One outer 6mm thick tinted heat-reflecting toughened glass and one inner 6mm thick clear toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).The glazing to be used in all exterior walls shall be of Saint Gobain or equivalent.The glazing to be used should comply to mentioned standards VLT (Visible Light Transmittance) $\geq 62\%$ , SHGC/ SF (Solar Heat Gain Coefficient/ Solar Factor) $0.2 \leq 0.32$ and U- Value 1.2 TO 2.5 W/MSq K,The properties of performance glass shall be as per detail design values as approved by engineer incharge.The glass to be used should be from the approved manufacturers of glass and should be free from distortion and thermal stress.	SQM	250.00			0.5356478487
I(d)	Fire rated glass min.14mm thick fire resistant clear, toughened, interlayered clear 120 min fire rated for Integrity, Radiation control (EW 120) and partially insulation (EI 20) Non Wired Toughened Interlayered glass complying to BS476 Part22 or (EN-1634-1 :1999 ) with a light transmission of 86% according to EN410 standards and sound reduction of $\geq 37$ dB and manufactured in UL & TUV audited Facility and including UL-EU Certification and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested and certified for no formation of bubbles or yellowing after 5000 hours of exposure to UV radiation by TUV Rheinland as per EN 12543-4 The glass shall provide bidirectional (Symmetrical) fire protection. as per specification and instruction of engineer in charge.	SQM	350.00			0.7624540583
An	8 mm thick laminated toughened glass	SQM	150.00			0.0327421331
Aq	6mm thick laquered glass as per approved shade colour and design.	SQM	25.00			0.0048021781
Ar	Heat Strengthened Coloured tinted float glass 6mm thick substrate with reflective soft coating on outer face+12mm Airgap + 6mm Heat Strengthened clear Glass of approved make, having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 1.5 to 1.7W/ m2 degree K etc. The properties of performance glass may varies as per decided by technical sanctioning authority as per the site requirement.	SQM	50.00			0.0179443357
917	Providing and fixing 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	1050.00			0.1183332808
919	Providing and fixing 1 mm thk. MS sheet sliding shutters with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	50.00			0.0187676978

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A920	Providing and erecting Roof skylight structure with 4mm thick embossed clear translucent polycarbonate IR sheet, both side UV coated, minimum 55% light transmission, solar control, approved make, texture and shade, fixed to powder coated Aluminium section with 60mm width top & bottom with EPDM rubber gasket in approved shape like dome, pyramidal etc, sealing of joints with sealant, screws with pvc cap, self tapping screws, EPDM rubber gasket.etc as per drawing, standards, specification, instruction of engineer in charge etc all complete.(Structural Steel will be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00			0.0930258072
1000	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge.					
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	875.00			0.3948705816
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	3500.00			1.9936178023
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	SQM	175.00			0.0122216950
1014	Extra over item no. 1002 for height above FGL (Finished Ground Level) as per following:					
a	Height exceeding 10m from FGL but not exceeding 20m	CUM	150.00			0.0085256862
b	Height exceeding 20m from FGL but not exceeding 30m	CUM	50.00			0.0051142951
c	Height exceeding 30m from FGL but not exceeding 40m	CUM	25.00			0.0034102814
1015	Extra over item no. 1003 for height above FGL (Finished Ground Level) as per following:					
a	Height exceeding 10m from FGL but not exceeding 20m	SQM	100.00			0.0003677911
b	Height exceeding 20m from FGL but not exceeding 30m	SQM	50.00			0.0003310220
c	Height exceeding 30m from FGL but not exceeding 40m	SQM	25.00			0.0002206797
1100	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.					
b	50mm thick	SQM	500.00			0.0147286312
1200	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	14000.00			0.4048149133
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	26250.00			0.6361726882
1207	Forming groove of uniform size from 12X12 mm upto 25X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	500.00			0.0013487636
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	875.00			0.0417403466
1300	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
1301	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	200.00			0.0005572165
A1304	Two or more coats of Low VOC (volatile organic compound, less than 50g/L) acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete. All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge	SQM	12500.00			0.1025603919
1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1500.00			0.0164454113
A1305	Providing and applying two or more coats of low VOC (volatile organic compound) acrylic emulsion paint as per IS 15489, relevant latest code of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline. Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge.	SQM	5000.00			0.0579142717
A1306	Providing and applying 2 or more coats of oil resistant paint(epoxy based & minimum 150 micron thickness) of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1500.00			0.0289361791
B1306	Providing and applying 2 or more coats of acid/alkali resistant paint (epoxy based & minimum 150 micron thickness ) of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1400.00			0.0360094673
1307	Providing and applying two coats of Epoxy coating with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 150 micron thickness over epoxy primer.	SQM	100.00			0.0017620478

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1308	Providing and applying 2 or more coats of Chlorinated Rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	100.00			0.0015674493
1309	Two or more coats of fire resistant transparent paint (@3.5 sqm per litre per coat) as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications. French polish payment will be made seperately.	SQM	100.00			0.0034730619
A1311	Two or more coats of synthetic enamel paint of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete. Note: The paint should have VOC content limit less than 150 grams per litre All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge.	SQM	100.00			0.0015001630
1312	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	1250.00			0.0103092804
A1313	Providing and applying ready made Epoxy Paint over areas other than steel structure/flooring with suitable pigments of approved shade as per specification and direction of Engineer. Epoxy Painting shall be provided with surface preparation of concrete substrate with Captive Shot Blasting Machine OR Light Grinding to form the required anchor profile on the floor substrate followed by application of epoxy resin based moisture barrier underlay of 2 mm thickness including filling of saw cut joints with epoxy cementitious resin based moisture barrier underlay as per manufacturer specification. Application of self smoothing epoxy floor topping of epoxy based resin of 2 mm thickness over epoxy resin based moisture barrier underlay including application of solvent free epoxy resin based two component primer shall include application of PU Sealant at Expansion and Isolation Joint respectively including surface preparation of the joint, fixing of backup strip and application of sealant etc all complete as per specification. The epoxy coating shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 4 mm thickness.	SQM	500.00			0.0280967987
A1314	Providing and applying resin bonded granular textured finish,shall consist of crushed stone/special quality Silica quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, acrylic modified exterior adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film nominal thickness of 2.5 mm from approved manufacturer Asian ,Luxture, Berger or equivalent.The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	75.00			0.0065637372
A1315	Providing and applying three coats of Solvent based (100% pure acrylic co-polymer resin based) paint (shall not contain any water sensitive ingredients)of approved brand and manufacture and required shade over one coat of primer or one coat of cement paint after necessary cleaning/ washing, removing loose & flaking materials, removing mould, algae, organic growth & grease, preparing the surface using coir brush/ wire brush, sand paper, including all required tools, material, scaffolding and other painting accessories, filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish. The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	75.00			0.0029688043

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1317	Providing and applying 2 mm thick Acrylic wall putty punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	25000.00			0.2293093332
A1319	Providing and applying two or more coats of weather coat paint of Premium Acrylic Smooth Paint with Silicone additives, over and including Texture base coat, of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification. Textured base coat (Two or more coats applied @ 6.5Kg/10 sqm over and including priming coat of exterior primer applied @ 2.20Kg/10 sqm) of High Quality Exterior Acrylic Modified resin and special quality Silica Quartz with Trowel Texture (Asian / Dulux / Nerolac / Berger / Equivalent as per selection).	SQM	12500.00			0.1430223259
1400	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2(1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges etc. all complete The ratio of approved quality metallic hardening compound and cement shall be 1:4.(Quoted item rate shall be inclusive of providing glass joint strips).	SQM	7500.00			0.3379319508
B1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non- metallic hardener pigmented topping 12mm thick uniform graded hardener in flooring. Under layer of 38mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 12mm thick hardener concrete of mix 1:2(1 cement hardner mix with approved quality non-metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including as per manufacturer specification, cement slurry, rounding off edges etc. all complete.The ratio of approved quality hardening compound and cement shall be 1: 4 as per approved sample and manufacturer specification. (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	15000.00			0.6758669127
A1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, etc. all complete as per specification.The ratio of approved quality metallic hardening compound and cement shall be 1: 4.	SQM	100.00			0.0037585213

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

B1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with Non-metallic hardener pigmented topping of 10 mm thick uniform graded in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick with hardener concrete of mix 1:2 (1 cement hardner mix with approved quality hardening compound :2 stone aggregate 6mm nominal size) by volume as per manufacturer specification including,cement slurry, rounding off edges etc. all complete as per specification.The ratio of approved quality hardening compound and cement shall be 1: 4 as per approved sample and manufacturer specification.	SQM	500.00			0.0187926065
C1402	Providing and laying 25 mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with 10 mm thick uniform graded particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick cement mortar 1:2 (1 cement :2 sand) by volume including cement slurry, rounding off edges etc. all complete as per specification.	SQM	100.00			0.0035705802
A1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum/quartz chips topping pigment content is 3.5 kg per 50 Kg of white Cement) of size 300X300X25mm thick of approved shade as per IS 1237, including minimum 20mm cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry@4.4 kg/sqm,labour,materials, etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grinding and polishing complete with laying as per IS 1443 etc.(inclusive of cost of cement for tiles manufacturing) all complete for following: Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Laid in floors	SQM	2500.00			0.2366057375
A1404	Providing and laying interlocking M35 Grade concrete blocks in paving with approved colour and pattern and should be laid on the subbase and bedding of sand minimum 20mm thick as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	80mm	SQM	2500.00			0.1801919921
1410	Marble stone Flooring laid in 50mm overall thickness with 18-20mm thick marble slabs (grade -1) with minium 30mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level.The marbel slabs/tiles laid over underbed with mortar 1:3, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.0137618837

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1412	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	750.00			0.2224516801
A1412	Providing and laying 20mm thick Mirror polished (6 layers of polish)/Flame finish (making top surface rough by burning / shot blasting)Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30mm thk of 1 cement : 1.5 sand : 3 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, moulding, cornice, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	250.00			0.0784467675
1416	Providing and laying vitrified ceramic tiles of polished variety of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	10mm thick tiles In flooring	SQM	300.00			0.0297259331
B1416	Providing and laying heavy duty Antiskid full body vitrified tiles 18-20 mm thick of size 600x600mm in flooring, of approved shade, colour, pattern and make from reputed / approved manufacturer as Smpolo,Varmora or equivalent ,complete including underbed of cement mortar 1:3 minimum 30mm thick for flooring with neat cement slurry @3.3Kg/sqm etc.all complete. Full body Vitrified Tiles shall be laid on properly laid levelled floor, with joints 3 to 5mm wide & 8 to 10mm deep & shall be filled with approved Epoxy Grout mix of 0.70kg of organic coated filler of desired shade (0.10kg of hardener and 0.20kg of resin per kg). Full body Vitrified Tiles shall have water absorption less than 0.5%, Modulus of Rupture more than 38N/mm2, Breaking strength more than 7500N, Moh's scale more than 6, Abrasion resistance less than 144 mm3 and coefficient of friction more than 0.4. Vitrified Tiles shall generally conform to IS: 15622. All complete (including cost of epoxy grouting )as per engineer incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	3500.00			0.7175892531

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

D1416	Providing and laying matt finish vitrified ceramic tiles of polished variety of size 600x600 / 800x800 of approved shade, colour, pattern and make from reputed / approved manufacturer as Simpolo, Varmora or equivalent, complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc., 3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	9.0 mm (min.) thick tiles In flooring	SQM	1000.00			0.1003144343
b	9.0 mm (min.) thick tiles In dado	SQM	250.00			0.0262084024
1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following:- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
d	10mm thick tiles In skirting and dado upto specific height	SQM	75.00			0.0085406580
A1417	Providing and laying Digitally vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including minimum 40 mm thick underbed of cement mortar 1:4 for flooring and 12mm thick underbed of cement mortar 1:3 for dado / skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following:- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	9.00 mm (min.) thick tiles In flooring	SQM	2500.00			0.2665040178
d	9.00 mm (min.) thick tiles In skirting and dado upto specific height	SQM	100.00			0.0111299821
B1417	Providing and laying vitrified ceramic tiles of matt finish variety of size 1000X1000 from reputed / approved manufacturer, complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc. with 3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	9.5 mm thick tiles In flooring	SQM	750.00			0.1089219782
C1417	Providing and laying vitrified ceramic tiles of matt finish polished variety of size 1000X1000 from reputed / approved manufacturer Simpolo, varmora or equivalent, complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc. with 3mm groove joints as per approved pattern pointed neatly with 3X4 mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	10 mm thick tiles In flooring	SQM	150.00			0.0220954961

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

c	10 mm thick tiles In skirting and dado upto specific height	SQM	50.00			0.0077012942
A1418	Providing and laying 10 mm thk non-skid fully vitrified tiles of approved manufacturer simpolo, varmora or equivalent in flooring and skirting over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern of following :- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	600X600 mm	SQM	350.00			0.0392310092
1419	Providing and laying granite stone slab of 20mm thickness single piece for wash basin / sink slab /facia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting,making corners,moulding and opening etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.0186289923
1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick of reputed manufacturer of approved finish shade and colour including 20mm underbed of cement mortar 1:3 with neat cement slurry @3.3kg/sqm etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	300X300 mm	SQM	50.00			0.0038390595
A1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick Designer glazed/matt finish of reputed manufacturer Simpolo,varmora or equivalent of approved finish shade and colour on walls, skirting etc.including 20 mm underbed of cement mortar 1:4 in flooring and cement mortar of 1: 3 for skirting/dado with neat cement slurry etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	300X300 mm	SQM	250.00			0.0205912298
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles comply to IS:4457 and shall be laid over bitumastic lining of min 12mm thick ( to be laid in layers of 6mm each). The tiles shall be applied in flooring/Dado of reputed / approved manufacturer Simpolo,varmora,Naya Rangoli or equivalent of approved finish, shade and colour with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing, pointing joint of bedding 20mm deepx6mm wide with epoxy/Furane mortar etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	20mm thick	SQM	1000.00			0.2176666018

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

B1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) tiles (75mm thick) conforming to IS:4457 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by min.12mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR tiles shall be filled with resin type mortar of reputed / approved manufacturer Naya Rangoli,Berger or equivalent conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00			0.0466803915
C1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (115 mm thick) conforming to IS:4860 in the walls of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type mortar of reputed / approved manufacturer Naya Rangoli,Berger or equivalent conforming to IS:4832, part II, of seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00			0.0599896108
A1425	Providing and laying polished Marble slabs (rajnagar plain white or equivalent approved shade/color /design) 20 mm thk in staircase landing/skirting and corridors over minimum 30 mm thick underbed of 1 cement : 1.5 sand : 3 stone aggregates by volume mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including moulded marbel nosing, pigments, curing, grinding, making corners, granite polishing etc. complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00			0.1765832056
1426	Providing and laying marble skirting /dado (Approved shade/color /design) equivalent of minimum 20mm thickness projecting 6mm from adjacent plaster all complete including underbed 20mm cement mortar 1:3, with thick cement slurry 3.3kg/sqm spread over the surface scaffolding etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	20.00			0.0065937662

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1427	<p>Providing and fixing Designer digitally glazed ceramic tiles of approved color and design as per IS: 15622 of size 300x300mm / 300x450mm, 300X600 of reputed / approved manufacturer Simpolo, varmora or equivalent of approved finish, size in dado, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1 part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete as instructed by engineer incharge for following thicknesses.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>				
a	5mm thick	SQM	350.00		0.0263916808
b	7mm thick	SQM	350.00		0.0289431740
A1428	<p>Providing and laying 2mm thick heavy duty antistatic PVC(Virgin) tile in flooring / skirting of approved shade, from reputed / approved manufacturer Naya Rangoli, robina or equivalent as per IS:3462 and laying as per IS:5318 all complete as per specifications.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00		0.0047182840
A1429	<p>Providing and fixing Removable type flooring system (raised access floor) consisting of fire resistant Cementitious panels of 600 x 600x 35 mm and Laminated with 1.2 mm thick fire retardant food grade antistatic laminate top finish to ensure max bonding to the steel surface. Cementitious panels shall be steel welded construction, with an enclosed bottom pan of 64 hemispherical and top plain sheet which are fuse welded at multiple location to form a panel. The panel is coated with 40-60-micron epoxy coat after cleaning, de-greasing, phosphate by several tank processes &amp; is heated to achieve max adhesion to the panel surface &amp; corrosion resistance. The inner empty core of the panel is injected with a light weight fire retardant, non-combustible cementitious compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. Pedestal (300mm – 800 mm) must be 25mm dia. pipe with min.2.0 mm thickness with bottom plate of 100x100x min.2.0mm thick &amp; top plate must be 75x75x3.0 mm. All pedestal shall be tightening to Stringer of 20x30x575x1.0 mm Rectangular tube. The system shall be design and taken approval for Uniformly distributed load (UDL) of 13 KN (1300 kg/ sqm), for the same all complete as per specification. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint etc complete as per specification.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00		0.0464026553

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1431	Providing and fixing, laying min.15mm wodden panel flooring and skirting of pergo,Robina,greenlam or equivalent multi-layered engineered wooden planks treated with VOC free lacquers and stains to provide extra strengthening, longevity and durability to planks. In all planks each layers are arranged at cross grain to each other for provide the balancing and stability to all three layers. Top layer of flooring is made up of about 3.0 mm thick thermosetting re-polish able natural veneer setting on a core of about 10 mm thick pine wood that produce natural characteristic of wood with 2.0mm thick bottom ply based veneer balancing layer. The planks are joint to each other through plankloc system with glue less technology system and laid on 2mm thick dual barrier underlay protecting sheet having anti-bacterial, Anti-termite, fire-resistant, noise reduction, high wear and abrasion resistance, water resistant properties. The system includes all accessories like beading, Quadrant, Veneered/solid wood skirting, end profile etc.as per as per manufacturer specification and approved by Engineer Incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00			0.0334279843
B1431	Providing and laying minimum 50 mm thick wooden flooring, consisting of 35 mm thick hardwood planks, finished with min. 15mm thick wooden flooring of greenlam, pergo or equivalent with min. plank size 193x1195mm (material class shall be 34 as per EN13329) of approved color and shade, over 2 mm expanded polystyrene foam and polythene sheet under laying all complete as per manufacturer specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0441525050
A1432	Providing and laying Decorative/designer pre-polished, plain and pigmented, high wearing resistance concrete tiles of 20mm thickness (minimum) in various non-standard interlocking patterns of approved color,shade all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0055195628
A1433	Providing and laying Tactile, tac liner & tac button fully vitrified unglazed porcelain tile (for guiding band/s for visually impaired persons), size 300x300 15mm thick having Tile body 10mm thick plus profile 4.5mm thick. Low water absorption below 0.5%. MOR > 38NCM2, MOH Hardness >7 & Breaking strength > 4000 N. Tile confirming RNIB (The royal national institute for the blind, UK) , DETR (Department of the environment, transport and the regions, UK), & ADA (American With Disabilities Act, USA) , high stain and chemical resistance. Confirming IS 4457: 2007. Tile will be laid on 20mm thick cement & sand mortar with cement slurry having 4mm spacer & pointing with 3X4mm stainless epoxy grout / polymer based SP- 100 of Laticrete or approved equivalent in approved colour. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0101655251
A1434	Providing and fixing carpet flooring over cement concrete floor. The carpet shall be of tile/roll form, machine/hand made tupled un-cut loop pile and lay with under lay of 10mm thick and shall be laid as per manufacturer's recommendations, in matching grains, treated with anti fungus and anti-termite before laying etc all complete as per specification.(Cement concrete flooring to be paid separately)	SQM	100.00			0.0070302387

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1435	Providing and fixing Glass mosaic tiles at finished plain wall surface of size 24 mm x 24 mm x 3.8 mm thick (minimum) in decorative murals and pattern of approved colour, shade, design, fixing in customize design, as per direction of Engineer-in- Charge. The glass mosaic tiles to be fixed on the vertical wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-in- Charge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00			0.0976432362
A1436	Providing and fixing Rubber flooring over cement concrete floor min. 4mm thick conform to IS 809, consist of 100% virgin elastomer reinforcing agents, resins, curing agents, anti-oxidants and pigments. The rubber flooring shall be of tile/roll form, machine/hand made tupled un-cut loop pile and lay with suitable under lay and shall be laid as per manufacturer's recommendations, in matching grains, treated with anti fungus and anti-termite before laying etc all complete as per specifications. Rubber flooring shall have excellent abrasion resistance, comply to class-I fire rating, acid & alkali resistant and shall be of anti static grade. (Cement concrete flooring to be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00			0.0271506373
1500	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1504	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa complying AS1397 and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with silicon modified polyester (SMP with silicon content of 30% to 50%) paint or Super Polyester paint of minimum dry film thickness (DFT) 20 microns (nominal) over suitable primer coat of 5mm DFT (nominal). Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 10 microns (nominal) over suitable primer of 5mm DFT (nominal). The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	4000.00			0.3813624890

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1505	Designing, providing and fixing External/ Inner sheet of Permanent colour coated metal cladding / roofing with troughed M.S. sheets of minimum 0.5 mm bare metal thickness of min. grade G350 as per AS1397/grade SS340 class 4 or as per ASTM A792M/ grade S350 GD as per EN 10326 with zinc coating to class Z275 / aluminium zinc alloy coating to class AZ150 on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing, etc. all complete over columns, beams, bracings etc. at all levels. The exposed face the sheet shall be permanently coated with silicon modified polyester(SMP silicon content 30%-50%) paint or super polyester paint of minimum 20 micron DFT on exposed surface over primer coat of minimum 5 micron and minum 10 micron SMP or super polyester paint over primer coat of minimum 5 micron on other face. SMP and polyester paint system shall be of industrial finish of product type 4 of AS/NZ2728. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	25000.00			2.0011093702
1511	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturer's recommendations. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a)	For insulation in Sandwich Cladding	SQM	850.00			0.0605573117
1512	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
c)	Mineral wool/rock wool insulation(density 48 kg/cum) bound in polythene bags laying on top of false ceiling panels at all height and levels as per instruction from engineer in-charge.	SQM	700.00			0.0587284239
A1514	Providing and fixing underdeck insulation with resin bonded rock wool /Mineral wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum with minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.6 mm dia and 25 mm mesh GI wire netting, fixed with 2mm wire ties at various elevations with rawl plugs including clips, etc complete as per specifications and instructions of the engineer incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	5000.00			0.3528786996
1517	Providing and fixing 1 mm thick corrugated/semicorrugated G.I. sheet in roofs, cladding of minimum galvanisation of 275 gsm total on both sides with minimum 150mm overlapping, 8 dia G.I. hook bolts or 'J' Bolts and nuts @305 mm c/c along with G.I. and bitumen washers including cutting of sheets for opening etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	325.00			0.0321003445

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1519	Designing, providing and fixing Factory made (Continuous Line) prefabricated sandwiched Permanent colour coated metal cladding comprising top sheet as troughed (minimum depth of trough shall be 30 mm) permanently colour coated sheet & bottom sheet as plain permanently colour coated for covering of exposed metal/concrete / brick surfaces with insulation shall be of Polyurethane type of minimum 50mm thick (excluding trough). The polyurethane shall be Chlorofluorocarbon (CFC) free and self-extinguishing and shall conform to IS 12436: 1988. It shall have Modular Density 40 +/- 2 Kg/m <sup>3</sup> and Thermal Conductivity @ 10 Deg.C 0.017 - 0.020 W/M 0k, Water absorption (% by vol) 3.1, Critical Oxygen Index 23 and Compressive Strength 1.2 Kg/sq.cm, sandwiched between the two sheets, each sheet shall be high strength tensile steel sheet 0.5mm bare metal thickness (minimum) of YS350 as per IS 15961 /grade G350 as per AS1397 / grade SS340 class 4 as per ASTM A792M / grade S350GD as per EN 10326 with zinc coating to class Z 275 / aluminium-zinc alloy coating to class AZ150 on both sides, both sheet shall be permanently coated with silicon modified polyester (SMP with silicon content of 30% to 50%) paint of minimum 20 micron DFT on exposed surface on 5 microns (min.) epoxy primer/phosphate primer coat and 10 micron (min.) SMP on 5 micron (min.) epoxy primer/phosphate primer on other face, SMP paint system shall be of industrial finish of product type 4 of AS/NZS 2728, troughed sheet shall be of approved profile, sectional properties, (suitable for the specified loading / deflection and purlins / runner spacing), colour and shade, at all levels, including all labour, materials, equipment, handling, transportation, special coated fastener conforming to corrosion resistant Class 3 of AS3566 and tested for 1000 hours salt spray test, fixing insulated sandwiched metal sheet with the structural members below for supporting the sheeting system, scaffolding, equipment, end and side laps, cutting of openings, preparation of working drawings, testing, etc., all complete, as per specifications. Sealant used for cladding shall be butyl based, two parts poly sulphide or equivalent approved, non stainless material and be flexible enough not to interface with fit of the sheets. Coated surface shall be provided with a protected guard film (polyethylene) of about 40 microns to avoid any damage to the coating during handling. Overlap shall be min. 100 mm or as specified by manufacturer. Payment Breakup: a) Supply & Receipt of material at site - 60%	SQM	2500.00			0.4838127589
1600	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1601	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
aa	12.5mm thick GRG board conforming to IS: 2095 with galvanised light gauge steel load bearing supporting GI frame (minimum 0.8mm thk and grid size of 600x1200mm.) and finished flat (seamless).	SQM	100.00			0.0082767834
b	12 mm thick GRG board in profile (dome ,curved profiled etc.) with galvanised light gauge steel load bearing supporting GI frame and finished smooth (seamless).	SQM	100.00			0.0118262345

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1601	<p>Providing and fixing 12.5 mm thick tapered/square edge glass fibre reinforced gypsum board conforming to IS:2095 having fine texture finish including providing and fixing of frame work at all levels, for all kind of work, consisting of light weight galvanised steel member (minimum 0.8 mm thick and galvanised as per IS : 277) having maximum grid size of 1200 mm x 600 mm for supporting panels of specified size, suspended from RCC slab/ structural steel or catwalkway grid above, with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm width along the perimeter of ceiling, supporting grid system (minimum 0.8 mm thick and galvanised as per IS : 277 ), expansion fasteners for suspension arrangement from RCC, providing openings for AC ducts, return air grills, light fixtures, etc., all complete. (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 60%  b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00			0.0130088459
A1602	<p>Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required M.S. channel shall be measured &amp; paid extra under respective item unit rate. (All mineral fiber board to be used should be with appropriate % of recycled content.</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 60%  b) Execution &amp; Services Associated with the item - 40%</p>	SQM	2500.00			0.3702657473
A1603	<p>Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon Hunter douglas, Newage or approved equivalent with corrosion resistant aluminium alloy panels of size 600 mm x 600 mm and min.0.6 mm thk. with clip on torsion spring system ,perforation patterns in combination with built in nonwoven tissue, acoustic fleece for providing good acoustic properties with NRC 0.7 and installed with silhouette T-Grid (of profile 24 mm) in same or contrasting colours or with 6 mm recess joints. The whole system shall be level adjusting arrangement and shall be suspended as per manufacturer. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:  a) Supply &amp; Receipt of material at site - 60%  b) Execution &amp; Services Associated with the item - 40%</p>	SQM	5000.00			1.7976701427

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

B1603	<p>Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon 150C,300C, of Hunter douglas, Newage or approved equivalent with corrosion resistant aluminium alloy (grade 3105) panels of minimum thickness 0.6mm with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.55. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.(Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00			0.1677816174
A1604	<p>Providing, fixing and laying permanently colour coated Designer metal aluminium false ceiling of approved colour with stove enamel finish of approved make of Luxalon Hunter douglas,Newage or approved equivalent in LINEAR, RECTANGULAR, SQUARE, CURVILINEAR, OPEN GRID type etc.as per detail engineering drawing, with corrosion resistance aluminium alloy (grade 3105) panels of minimum thickness 0.6mm,with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.7. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc.Suitable M.S. channel (minimum MC 75) grid 1200 mm C/C maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Structural steel works for platform for movement is separately payable under relevant items of BOQ)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00			0.1569001428
B1604	<p>Providing, fixing and laying permanently colour coated Designer metal Batten panel aluminium false ceiling of colour with stove enamel finish of approved make of Luxalon Hunter douglas,Newage or approved equivalent in combination with demountable translucent stretch ceiling members etc.as per detail engineering drawing &amp; manufacturer specification with corrosion resistance aluminium alloy (grade 3105) panels of minimum thickness MIN. 0.6mm. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc.Suitable M.S. channel (minimum MC 75) grid 1200 mm C/C maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Structural steel works for platform for movement is separately payable under relevant items of BOQ)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00			0.0444159081
1605	<p>Providing, fixing and laying anodised natural colour matt finished aluminium false ceiling of Jindal/Hindalco make with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00			0.0330285208

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1606	<p>Providing and Fixing 12mm thick Gypsum board plain/perforated false ceiling tiles(600x600mm) of India Gypsum or equivalent make in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete.as per architectural design and detail.metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated.suspension system shall be as per manufacturer's specification supported over movement platform.The work to be complete as per specifications, drawings and direction of engineer.( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00			0.0110240038
1607	<p>Providing and Fixing 12mm thick Gypsum board plain/ mineral fibre based acoustic ceiling board in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete.as per architectural design and detail.metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated.suspension system shall be as per manufacturer's specification supported over movement platform. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00			0.0118158036
A1607	<p>Providing and Fixing 12mm thick Calcium silicate board of HILUX or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). Work shall include 25mm thick resin bonded mineral wool insulation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00			0.0787584043

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1608	<p>Providing &amp; fixing 12.5 mm thick glass fibre reinforced gypsum plastic board in plan curve or in elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete, as per architectural design and detail, metal suspension system as per ASTM C-635 shall be hot dipped MS galvanized (grade 180 as per IS:277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24 mm wide exposed flange surface shall be permanently color coated. suspension system shall be as per manufacturer's specification supported over movement platform. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00			0.0122464065
A1608	<p>Providing and fixing Pre-Painted Coil coated Steel false ceiling system, at all level, for all kind of works, in approved pattern, consisting of 0.5 mm thick galvanised as per IS 277 including 50mm thick mineral wool insulation (density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. , along with galvanised supporting steel members exposed faces of galvanised member to be prepainted with regular modified polyester coating / super polyester coating minimum 20 DFT, to form panels of specified size for tile type panels and roll formed stove enamelled 0.6 mm thick steel carrier, for fixing of lineal type panels by clip on arrangement, suspended from RCC slab / structural steel or catwalk way steel channel grid above with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm leg width along the perimeter of ceiling, including all labour, material, supporting grid system (members minimum 0.8 mm thick and galvanised as per IS 277) anchor fasteners for making suspension arrangement from RCC, providing openings for AC ducts, return air grills, insulation light fixtures, etc., all complete. ( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	1500.00			0.1767852312
A1609	<p>Providing and fixing stainless Steel false ceiling system in lineal/tile shape, approved colour Luxalon hunter douglas or approved equivalent, lineal pattern (closed type) of 100 mm nominal width , bright finish at all level, for all kind of works, consisting of 0.5 mm thick stainless steel sheet, along with galvanised supporting steel members exposed faces of galvanised member to be prepainted with regular modified polyester coating / super polyester coating minimum 20 DFT and roll formed stove enamelled 0.6 mm thick steel carrier, for fixing of lineal type panels by clip on arrangement, suspended from RCC slab / structural steel or catwalkway steel channel grid above with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm leg width along the perimeter of ceiling, including all labour, material, supporting grid system (members minimum 0.8 mm thick and galvanised as per IS 277) anchor fasteners for making suspension arrangement from RCC, providing openings for AC ducts, return air grills, insulation light fixtures, etc., all complete. ( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup: a) Supply &amp; Receipt of material at site - 60% b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00			0.0352678464
1700	<p>RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge.</p>					

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1704	Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over acoat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	2000.00			0.2730743951
B1704	Providing and fixing galvanised MS down take pipes of 200 mm dia- Medium quality as per IS:1239(part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over acoat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	200.00			0.0415242249
C1704	Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239 (part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over a coat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	10.00			0.0010167470
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	50.00			0.0031801558
1706	Providing and fixing UPVC down take pipes of 160mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	5.00			0.0004324215
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
A1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorum/non expansive soil and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	10000.00			2.0867744855

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

B1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of 40 mm size rammed,consolidated in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected fine sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	1500.00			0.3130086453
1802	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	500.00			0.1312978974
1803	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	150.00			0.0430418367
A1804	Providing and fixing weep holes in drains consisting of 75 mm dia HDPE pipe sleeves including sand (250sq x 150 mm thick), aggregates (250sq x 150 mm thick), 200mm dia geo-textiles (pasted on concrete surface) etc. all complete as per specifications, drawings and guided by engineer-in-charge. (item is inclusive the cost of materials like HDPE pipe, sand, aggregates, etc.).	EACH	1500.00			0.0242416511
1807	Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment). Drilling 12mm dia hole @300 c/c using material one liter per hole.	SQM	2750.00			0.0508777145
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	200.00			0.2128773476
1809	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	50.00			0.0429217896
1810	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	50.00			0.0324916059
1811	Construction of below ground earthing system earth electrodes as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items & steel shall be supplied by BHEL free of cost.)	NO	50.00			0.0028418954
1812	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items& steel shall be supplied by BHEL free of cost.)	NO	50.00			0.0023550057
1813	Providing Earthing pit as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	NO	50.00			0.1270631187
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	NO	50.00			0.0737257441
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	25.00			0.0002256950
A1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 610 g/sqm etc. all complete.	Kg	250.00			0.0020312348
1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust supression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	1350.00			0.0985340459
1823	Providing and laying cinder filling in the toilets,roads,etc complete as directed by engineer in charge.	CUM	25.00			0.0029154385

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

1827	Anti weed chemical treatment of soil with suitable chemical etc all complete.	SQM	20000.00			0.0053496882
1849	Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm downgraded stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction etc. all complete.	SQM	100.00			0.0045949783
1850	Providing 50mm thick anti corrosive layer laid to required slope consisting of clean & well graded coarse sand mixed with A90 grade bitumen for softening point upto 45 degree Celcius or A65 grade bitumen for softening point above 45 degree celcius as per IS: 73 or its equivalent quality 8 to 10% by volume and rolled or compacted all complete.	SQM	100.00			0.0048247092
1851	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	25.00			0.0004435831
1852	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	50.00			0.0020173079
1853	Providing, laying and fixing rails and guide rails in concrete for transformer, rail track(52 kg/m) including cutting of rails, joining of rails, anchoring lugs etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	50.00			0.3533456607
A1860	Providing and installation of Bio-Toilet near all the modular worker's sheds/accommodation etc all complete as per specification.	Nos	10.00			0.0366918779
A1862	Supplying and installation of pipes in concrete / Duct bank for all kind of works, including setting material in concrete, layout, cutting, forming, grinding, jointing etc. all complete as per specification and as guided by engineer-in-charge for the following: (Concrete, Reinf. paid separately)					
a	200 mm dia HDPE Pipes	RM	1000.00			0.1316047376
b	200 mm dia PVC pipe ISI mark 6 Kg/cm2	RM	200.00			0.0182572514

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A1864	<p>Providing and fixing Semi Unitised STRUCTURAL GLAZING to fixed panels with no aluminium section exposed to outside and only glass panels with silicon joint visible from outside. The system specially designed with aluminium sections of grade 63400 WP IS: 733 and IS: 1285 pure polyester powder coated 50- 60 microns make; Akzo Nobel applicator only in approved colour with mullion fixed to beams / columns through adequately designed MS powder coated. The member and bracket shall be fixed with appropriate bolts and expansion fasteners, so as to withstand the dead load of the structural glazing as well as stresses due to wind pressure. The Structural glazing system shall be designed as per BIS code for required wind pressure IS: 875 part III (the system must passed the proof test at 1.5 times design Wind pressure without any failure), with as per the prevailing site conditions and building profiles, including functional design of the aluminium sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation &amp; drainage and protection against fire hazard including, Fabrication and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon separator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers and use of aluminium section alloy as per IS : 8147. System design to strictly consider for thermal movements, air infiltration, water penetration, seismic movement and structural movement, submit the calculation for review and approval of shop / fabrication/shop drgs, cutting plan, from BHEL. Silicon sealant structural grade and weather grade shall be GE/Dow corning or Equivalent. The contractor shall submit structural stability report of the structural glazing system from a consultant to be get approved by the engineer incharge. Providing and fixing G.I. flashing at soffit level /sill level made out of 1.5mm thick G.I. Sheet with powder coated bent to required profile and shape to seal the soffit area. Openable glazing panel where ever required shall be with two point locking with friction stays, as per detail design requirement, provided with approved hardware of Dorma/Gieeze or equivalent make, all</p>	KG	200.00			0.0140327593
A1865	<p>Providing, fixing and Fabricating shadow box of required size and shape, for fixing in the spandrel portion of the structural glazing, in linear as well as curvilinear portions of the building by providing semi -rigid, inorganic, non-combustible fibre glass wool insulation 50 mm thick, conforming to IS: 8183 and BS: 3958 Part 5. The insulation layer shall have facing (factory bonded on surface # 1 of the fibre glass insulation layer), of black non-woven fibre glass tissue of nominal thickness 0.5 mm and nominal mass not less than 60 gm /sqm, made of randomly oriented glass fibres distributed in a binder by a wet-lay process including fixing 1.5mm thick solid aluminum sheet backing using, 6 mm thick cement board including SS rivets, nuts, bolts, washers etc complete.</p>	SQM	200.00			0.0288841590
2000	<p>FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge.</p>					

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A2001	Supplying and erecting in position 1.95 m high PVC coated gavanised chain linked fencing of minimum 4 mm (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge.The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanised high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. GI barbed wire fencing of height of 450 mm conforming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item A2008). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	2500.00			0.4727546956
A2003	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanised high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. Concertina of height of 600 mm at top of chain link fencing shall be provided and fixed with all accessories. Concertinal shall be from tensile serrated galvanised wire (HTSW) made with wire diameter of 2.5 mm which will be stretched to 6m and attached on two strands of galvanised HTSSW (high tensile spring steel wire) of 2.5mm dia by means of clips at 1m interval. These two HTSSW strands will be attached to the fence posts/ angles with 12 mm security fasteners. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts etc. all complete. (Structural post shall be paid separately under ST No. A2008) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	1250.00			0.2496234883
A2008	Supply, fabrication and fixing of mild steel posts for fencing including painting with chlorinated rubber paint over a suitable primer etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	75.00			0.5809829021
2009	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	30.00			0.2615754462
2100	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks with flow rate less than 5 LPM (litres per minute) at 45 psi, including sockets, union, nuts etc all complete -15mm nominal bore.(Note: Flow rate of all faucets at 45 psi should be less than 5 lpm. The contractor should submit the cutsheets/ declaration from the manufacturers mentioning the same to Engineer in charge.)	NOS	75.00			0.0054517569

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	NOS	75.00			0.0048449017
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	NOS	50.00			0.0036345046
b	50mm nominal bore.	NOS	50.00			0.0052494819
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	125.00			0.0041877894
b	20 mm nominal bore.	RM	50.00			0.0018378560
c	25 mm nominal bore.	RM	50.00			0.0021778032
d	50 mm nominal bore.	RM	25.00			0.0014594742
B2104	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, conforming to IS 15778, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings shall be concealed, complete for internal works with sockets, unions, elbows, tees, nipples etc of approved manufacturer supreme,prakash,ajay pipes or equivalent and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	100.00			0.0033289157
b	20 mm nominal bore.	RM	50.00			0.0017975273
Ac	32mm nominal bore	RM	25.00			0.0012359657
d	50 mm nominal bore.	RM	20.00			0.0015449602
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	75.00			0.0019242558
b	20 mm nominal bore.	RM	40.00			0.0011555546
c	25 mm nominal bore.	RM	40.00			0.0014283967
d	50 mm nominal bore.	RM	20.00			0.0010106639
A2106	Providing and fixing 600mm x 900mm x 6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws , edge mounting with teak beading and minimum 12 mm thick plywood backing etc all complete.	EACH	40.00			0.0056086855
2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with C.P. mounting brackets all complete.	NOS	40.00			0.0036984208
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	NOS	75.00			0.0043382527
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	NOS	75.00			0.0035241339
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	35.00			0.0019199917
A2113	Providing and fixing rotating type chromium plated brass shower rose with 15 or 20 mm inlet all complete.	NOS	25.00			0.0013123655
B2113	Providing and fixing rotating type Emergency safety shower,conforming to IS 10592 latest code, head with water column of height 210 to 240 cm is provided from the standing level.water column provided with a minimum spray pattern diameter of 50 cm at 150 cm height from standing level and the centre of the spray pattern shall be located at least 40 cm from any obstruction or emergency. Shower head shall be so designed that it produces a straight water column. Emergency shower head shall deliver a minimum of 76 l/min of water and substantially dispersed throughout the pattern,complete with installation,with accessories etc all complete.	NOS.	5.00			0.0154975682

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.				
a	500 litres capacity	NOS	10.00		0.0055370276
b	1000 litres capacity	NOS	15.00		0.0166110889
c	2000 litres capacity	NOS	15.00		0.0332221777
d	5000 litres capacity	NOS	10.00		0.0553702921
2115	Providing and installing approved brand single tap water cooler of 150 L cooling capacity all complete.	NOS	15.00		0.0814741919
A2116	Providing and fixing glass shelves 600mmx127mmx4 mm with chromium plated brackets all complete.	EACH	15.00		0.0009739597
A2117	Providing and fixing metal storing cabinets 4(Four) Drawer Metal File Storage Cabinet with Central Locking System, Powder Coated (Approx size 54" X 18.5" X 27" Inch, Grey) all complete	EACH	15.00		0.0155006830
A2118	Providing and fixing electric operated hand dryer with photo voltaic control.etc all complete..	EACH	15.00		0.0051672418
A2120	Providing and fixing stainless steel (SS304 ) Grab bars min.32mm dia, min.38 inches long, U-Shaped, swing type adjusts both horizontally and vertically, barrier-free access for disabled, appropriate fittings and fixtures for toilets for handicapped etc. all complete.	EACH	75.00		0.0103334381
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.				
A2201	Supply and fixing coloured glazed vitreous oval shape china wash basin 450x550mm conforming to IS: 2556 mounted over 18 to 20 mm thk granite beveled edge counter. The Basin shall be fitted with approved shape bib cock, photo-voltic control system for water control with flow rate less than 5 LPM (litres per minute) at 45 psi,CP brass chain with rubber plug, 40mm CP brass waste and bottle trap as per IS: 2556 with angle valve,taps,32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required,necessary union including cutting of notch in granite counter slab etc.all complete as per specification	EACH	100.00		0.1030922384
A2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, 40mm heavy duty CP brass waste bottle trap and 15mm CP brass pillar tap (hot and cold dual function) with elbow,operated level ISI marked, with necessaary union,elbow,angle valve,tees, junctions,extension pipes complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	5.00		0.0034131400
A2203	Providing and fixing stainless steel kitchen sink of size 610 x 510 mm, bowl depth 200 mm as per approved manufacturer with drain board of at least 450 mm length with trap, hot and cold water mixer, conforming to IS: 13983 including all fittings, necessaary union,elbow,angle valve,tees, junctions,extension pipes etc. all complete.	EACH	5.00		0.0030718676
B2203	Providing and fixing stainless steel Eye wash sink of size size 610 x 510 mm, bowl depth 200 mm as per approved manufacturer with drain board of at least 450 mm length with trap, water mixer, conforming to IS 10592 latest code including all fittings, necessaary union,elbow,angle valve,tees, junctions,extension pipes etc. all complete.	EACH	4.00		0.0022931547
A2204	Providing and fixing colour glazed vitreous china European type water closet of approved make conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC,dual flushing system) with valveless fittings,2 way angle valve, with health faucet necessary C.P connections, water faucet etc all complete.				
a	Floor mounted	EACH	7.00		0.0051929384
b	Wall mounted	EACH	60.00		0.0718240818

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete.	EACH	60.00			0.0350510550
A2205	Providing and fixing colour glazed vitreous china Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete having flow rate of 6/3 LPF (litres per flush) or less at 45 psi.	EACH	100.00			0.0613393513
A2206	Providing and fixing white/coloured water efficient flat black glazed vitreous china urinals of size 610x375x390mm with photo voltaic control flushing systems of approved manufacturer simpolo, varmora or equivalent per IS: 2556(pt-6 sec-1) with flush pipes, lead pipes, gratings, traps and necessary C.P fitting etc. all complete as per specification having flow rate of 2 LPF (litres per flush) or less at 45 psi.	EACH	100.00			0.1697226377
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	75mm dia pipes	RM	125.00			0.0037756295
b	110mm dia pipes	RM	150.00			0.0071871955
c	160mm dia pipes	RM	75.00			0.0049562306
d	200mm dia pipes	RM	100.00			0.0096518433
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following. Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	200mm dia	RM	200.00			0.0175559647
b	300mm dia	RM	1500.00			0.2118649548
c	450mm dia	RM	650.00			0.1169685625
d	600mm dia	RM	50.00			0.0110728656
e	900mm dia	RM	25.00			0.0074615062
2209	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following. Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	150mm dia	RM	375.00			0.0253893061
b	250mm dia	RM	50.00			0.0043496955
c	300mm dia	RM	50.00			0.0049073064
d	450mm dia	RM	25.00			0.0034422221
e	500mm dia	RM	25.00			0.0040520302
2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following: Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	450mm dia	RM	50.00			0.0103078170
b	600mm dia	RM	20.00			0.0049886292
c	900mm dia	RM	20.00			0.0067356292
A2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed manufacture confirming to IS:4111 etc all complete as per specification.	EACH	50.00			0.0607651984
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	50.00			0.0597280117

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:				
a	100x100mm P or S Type.	EACH	30.00		0.0051014871
b	150x100mm P or S Type.	EACH	20.00		0.0037124542
c	150x150mm P or S Type.	EACH	20.00		0.0042109638
A2214	Providing and fixing Heavy duty CP brass floor traps size 100mm with stainless steel grating etc all complete.	EACH	50.00		0.0080690436
A2216	Providing and installing approved brand single tap water efficient water cooler of 50 L cooling capacity all complete.	EACH	5.00		0.0145513191
B2216	Providing and installing approved brand single tap water efficient water cooler of 80 L cooling capacity all complete.	EACH	5.00		0.0194017585
A2217	Providing and installing approved brand single tap water efficient water cooler of 150 L cooling capacity all complete.	EACH	5.00		0.0270660074
2218	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	2.00		0.0012812954
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	20.00		0.0283168864
2221	Providing, laying spun CI pipes with conforming to IS 1536 complete for following.(Excavation,backfilling,concrete to be paid seperately)				
b	100mm dia	RM	50.00		0.0061099997
c	150mm dia	RM	110.00		0.0209470781
d	200mm dia	RM	200.00		0.0550619492
e	250mm dia	RM	25.00		0.0111317880
f	300mm dia	RM	25.00		0.0134582632
2222	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.				
a	Upto 75 mm dia	RM	10.00		0.0003548705
b	100 mm dia	RM	10.00		0.0004317743
c	150 mm dia	RM	30.00		0.0026795787
d	200 mm dia	RM	10.00		0.0013160474
2223	Providing and fixing vertical wall mounted water geysers/heaters(minimum 5 star rating) of required capacity including all connections & fittings(angular stop cock and brass connection pipes, etc.) all complete as per specification.				
a	15 Litres	Each	5.00		0.0045286638
b	25 Litres	Each	8.00		0.0093991502
A2224	Providing and fixing suitable water meter (Maximum Working Pressure 16 bar; Maximum Liquid Temperature 60°C; Connection Flanges according to ISO, BS 10, American Water works Association (AWWA) or others; Register water consumption in cum) on 50 mm domestic water inlet pipe	NOS.	7.00		0.0052463973
A2225	Supply, laying and jointing sand cast iron pipe conforming to IS: 1729 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.				
a	110mm dia pipes	RM	10.00		0.0009680794
b	160mm dia pipes	RM	50.00		0.0071411353
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.				

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

D2301	<p>Fabrication(Site Welded as per specification), transportation from fabrication yard and erection of Mild structural steel (Grade designation E250) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts &amp; nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm &amp; 66o C for welding over 40 mm and upto 63 mm &amp; 110o C for thickness over 63 mm &amp; use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete.(Rate shall be exclusive of surface preparation and primer). Payment Breakup:- 1) On Completion of Fabrication - 60% 2) On Completion of erection-25% 3) Balance on completion of alignment,welding etc.-15%</p>	MT	250.00			0.5685585931
F2301	<p>Erection of shop fabricated (field connections will be welded type ) Mild structural steel (Grade designation E250), Medium and High Tensile structural steel (Grade designation E350 or higher) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading,transportation,unloading,collection of steel from stores, machining,welding, electrodes and other consumables, alignment, true to line, level, plumb &amp; dimension,erection bolts &amp; nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm &amp; 66o C for welding over 40 mm and upto 63 mm &amp; 110o C for thickness over 63 mm &amp; use of low hydrogen/ radiogenic electrodes), post heating,testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge. Payment Breakup:- 1) On Completion of erection-60% 2) Balance on completion of alignment,welding etc.-40%</p>	MT	100.00			0.1304002991

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A2302	Extra over ST NO. D2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as per ASTM D520-00. Primer of minimum 70 micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	250.00			0.0750784763
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100 micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	250.00			0.0443565087
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0 ΔE) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	250.00			0.0443565087
A2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel conforming to IS:2062 having hot dip galvanisation, surface preparation of shot blast cleaned to Sa 2 ½ finish or cleaned by acid pickling as per ISO 8501-1, in flooring, platforms, drain and trench covers, walkways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%					
a	Minimum galvanisation of 610 g/sqm	MT	50.00			0.4214274850
2311	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade `C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%	KG	100.00			0.0009699910
2312	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%	KG	5000.00			0.0569408847
2313	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	20.00			0.0150155027

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

## SCOPE OF WORK:-

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

2314	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:				
a	In erected position	MT	20.00		0.0382512139
b	In fabrication yard	MT	20.00		0.0317948805
2315	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	20.00		0.0241581559
2321	Supply, fabrication and fixing of MS pipe hand railing of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete. Payment Breakup: 1. On Supply & Receipt at site - 60% 2. On completion of erection, alignment, welding, etc. complete as per description/specification - 40%	MT	5.00		0.0439506533
A2322	Supply, fabrication and fixing of galvanised MS pipe hand railing (Min. 1000 mm high) of 32mm/40mm/50mm dia (Medium Class) including transportation, loading/unloading, painting etc. all complete. Payment Breakup: 1. On Supply & Receipt at site - 60% 2. On completion of erection, alignment, welding, etc. complete as per description/specification - 40%	MT	25.00		0.2388216632
2400	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.				
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	1500.00		0.0072240665
2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	500.00		0.0130654992
A2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using excavated soil within a lead upto 1km soil and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	1000.00		0.0075577328
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	150.00		0.0091226368

## Revised Annexure A

## PROJECT: Various project sites of BHEL across India

## Revised BOQ CUM RATE SCHEDULE (PRICE BID)

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A2404	Providing & laying granular sub-base using close graded material conforming to specification, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	CUM	1500.00			0.3064768380
A2406	Providing & Laying water bound macadam sub base/base course with stone aggregate 53 mm to 22.4 mm size stone conforming to MORTH specification (Table 400-9) (IRC 19 -grading -3) mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications, drawings and directions of Engineer-in-Charge.	CUM	500.00			0.1075677124
A2410	Providing & laying 40mm bitumen mastic wearing course over concrete pavement with industrial bitumen of grade 85/25 conforming to IS : 702, prepared by using mastic cooker and laid to required level and slope, including providing antiskid surface with bitumen fine grained hard stone chipping of approved size at the rate of 0.005 precoated cum per 10 sqm and at approximate spacing of 10 cm centre to centre in both directions, pressed into surface protruding 1 mm to 4 mm over mastic surface, including cleaning the surface, removal of debris etc. all complete as per specification, drawings and as per direction of engineer-in-charge. (Considering bitumen using 10.2% as per MORTH specification).	SQM	5000.00			0.3885703565
A2413	Supplying and laying 450mmx250mmx500mm deep precast concrete kerb stone of grade M25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	1000.00			0.0677715238
B2413	Supplying and laying 300mmx250mmx150mm deep precast concrete kerb stone of grade M-25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	1000.00			0.0372862272
A2415	Supply and laying 200mm dia R.C.C NP3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	250.00			0.0219507270
A2419	Providing and laying cement concrete of grade M35/M40 using 20 mm nominal size stone aggregate with including addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent, provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	1000.00			0.3320498539
A2421	Providing & laying dry lean cement concrete of grade M10 with 20 mm nominal size graded stone aggregate over a prepared sub-base including compaction, finishing, curing etc all complete	CUM	750.00			0.2397652939
B2421	Providing and laying of plain cement concrete of grade M15 using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	350.00			0.1118904705
<b>REINFORCEMENT</b>						
A2423	Providing and fixing in position MS dowel bar reinforcement including surface painted with epoxy, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	10.00			0.0564007083
A2424	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.	MT	1.00			0.0056400708
<b>MISCELLANEOUS</b>						

**Revised Annexure A**

**PROJECT: Various project sites of BHEL across India**

**Revised BOQ CUM RATE SCHEDULE (PRICE BID)**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

A2425	Providing & installation of bitumen impregnated fibre board of 20mm thickness confirming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	50.00			0.0007048445
A2426	Providing and filling in position hot applied bitumen sealing compound (Grade A) of 20 mm thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	400.00			0.0020685425
A2427	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	1000.00			0.0036515494
A2428	Providing & laying 75 mm thick precast interlocking concrete pavers of grade M35 of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	1500.00			0.1008922558
A2429	Providing and laying 20mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	1500.00			0.0049240233
A2430	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	3000.00			0.0032940244
A2431	Supplying, fixing and removing formwork for concrete road pavement complete as per specification and as directed by the engineer-in-charge.	SQM	100.00			0.0036757446
	PROVIDING T&Ps ON RENTAL HIRING BASIS (CONSIDER WORKING TIME - 8 HOUR PER DAY)					
T&P-1	Hiring of Poclairn 200 having bucket capacity of 1 Cum with diesel and operator	Day	312.00			0.3911697385
T&P-2	Hiring of JCB 4Dx with diesel and operator	Day	312.00			0.2074271653
T&P-3	Hiring of Dumper having approx. 16 Cum of Capacity with diesel and operator	Day	624.00			0.4587996372
T&P-4	Hiring of Vibro Roller having approx. 12 Tonne Capacity with diesel and operator	Day	312.00			0.2538096081
T&P-5	Hiring of Dozer 80D with diesel and operator	Day	312.00			0.5243292028
T&P-6	Hiring of Boom Placer having 30 Cum Capacity with diesel and operator	Day	156.00			0.4657889354
T&P-7	Hiring of Farana having 14 MT Capacity with diesel and operator	Day	312.00			0.1714154327
	PROVIDING MANPOWER FOR MISCELLANEOUS WORKS AT PROJECT SITES ON REQUEST OF BHEL SITE-IN-CHARGE (CONSIDER WORKING TIME - 8 HOUR PER MANDAY)					
MP-1	Deployment of experienced skilled manpower like Carpenter, Bar Bender/Binder, Mason, Painter, Fabricator, Fitter, Rigger, etc.	Manday	6240.00			0.4580683234
MP-2	Deployment of experienced un-skilled manpower for supporting above skilled manpower	Manday	12480.00			0.6525312909

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
100	EARTH WORK: Earth work In excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer- in-charge for the following.					
A101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	87500.00	43750.00	26250.00	17500.00
b	Depth exceeding 2 m but not exceeding 4 m	CUM	52500.00	26250.00	15750.00	10500.00
c	Depth exceeding 4 m but not exceeding 6 m	CUM	17500.00	8750.00	5250.00	3500.00
d	Depth exceeding 6 m but not exceeding 8 m	CUM	10500.00	5250.00	3150.00	2100.00
e	Depth exceeding 8 m but not exceeding 10 m	CUM	3500.00	1750.00	1050.00	700.00
f	Depth exceeding 10 m but not exceeding 15 m	CUM	3500.00	1750.00	1050.00	700.00
A102	Extra over ST No. A101, A103, A105 & A106 for dewatering of ground water by sump pump method as per IS 9759.Ground water table shall be lowered up to 1 m below the founding level to make the site workable for foundation construction till backfilling up to ground level. Mode of measurement shall be the quantity of excavation of soil including ash below ground water table to founding level of the footing.	CUM	50000.00	25000.00	15000.00	10000.00
B102	Removal of slush / muck from excavated pit, trenches or foundations, including collection, loading, transportation, unloading and disposal of the same to designated disposal area within a lead upto 1Km, complete in all respects as per directions of Engineer-in-Charge.	CUM	5000.00	2500.00	1500.00	1000.00
A103	Earth work in excavation in soft rock (rock without any recovery of excavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	10000.00	5000.00	3000.00	2000.00
b	Depth exceeding 2 m but not exceeding 4 m	CUM	30000.00	15000.00	9000.00	6000.00
c	Depth exceeding 4 m but not exceeding 6 m	CUM	20000.00	10000.00	6000.00	4000.00
d	Depth exceeding 6 m but not exceeding 8 m	CUM	10000.00	5000.00	3000.00	2000.00
e	Depth exceeding 8 m but not exceeding 10 m	CUM	4000.00	2000.00	1200.00	800.00
f	Depth exceeding 10 m but not exceeding 15 m	CUM	400.00	200.00	120.00	80.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A105	Earth work in excavation in hard rock requiring controlled blasting including wedging, line drilling, pre shearing etc as required, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, shoring & strutting (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	1000.00	500.00	300.00	200.00
b	Depth exceeding 2 m but not exceeding 4 m	CUM	5000.00	2500.00	1500.00	1000.00
c	Depth exceeding 4 m but not exceeding 6 m	CUM	7500.00	3750.00	2250.00	1500.00
d	Depth exceeding 6 m but not exceeding 8 m	CUM	5000.00	2500.00	1500.00	1000.00
e	Depth exceeding 8 m but not exceeding 10 m	CUM	2500.00	1250.00	750.00	500.00
A106	Earth work in excavation upto any depth below ground level in hard rock requiring chiselling including wedging, line drilling, pre shearing etc as required for grading, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, stacking/disposal of surplus excavated material within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.					
a	Depth from ground level but not exceeding 2 m	CUM				
b	Depth exceeding 2 m but not exceeding 4 m	CUM				
c	Depth exceeding 4 m but not exceeding 6 m	CUM	1000.00	500.00	300.00	200.00
d	Depth exceeding 6 m but not exceeding 8 m	CUM	500.00	250.00	150.00	100.00
e	Depth exceeding 8 m but not exceeding 10 m	CUM	500.00	250.00	150.00	100.00
f	Depth exceeding 10 m but not exceeding 15 m	CUM				
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250mm/300mm thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.					
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	26250.00	13125.00	7875.00	5250.00
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	8750.00	4375.00	2625.00	1750.00
A108	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250mm/300mm thickness using/with selected earth directly from excavation within a lead upto 1Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.					
a	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	39375.00	19687.50	11812.50	7875.00
b	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	26250.00	13125.00	7875.00	5250.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km.					
a	Carriage for stacking/ backfilling of serviceable material/ earth	CUM	52500.00	26250.00	15750.00	10500.00
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	45000.00	22500.00	13500.00	9000.00
110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness so as to achieve required compaction with approved borrowed soil available within a lead of 10 Kms (borrowed soil to be arranged by the bidder) and compacted as specified including supplying boorowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer. Note: carriage of borrowed soil shall be payable as per BOQ Item No. 109a beyond an initial lead of 10 km.	CUM	5000.00	2500.00	1500.00	1000.00
A111	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 300 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	8750.00	4375.00	2625.00	1750.00
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. (Cement shall be issued by BHEL free of cost unless otherwise mentioned in the BOQ Cum Rate Schedule)					
A201	Providng, transportation and placing Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	4375.00	2187.50	1312.50	875.00
B201	Transportation and Placing Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	1093.75	546.88	328.13	218.75

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A202	Providng, transportation and placing Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	1750.00	875.00	525.00	350.00
B202	Transportation and Placing Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	437.50	218.75	131.25	87.50
A203	Providng, transportation and placing Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors,plinth protection etc. complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	7000.00	3500.00	2100.00	1400.00
B203	Transportation and Placing Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors,plinth protection etc. complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224) NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	1750.00	875.00	525.00	350.00
A204	Providng, transportation and placing Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224).	CUM	3500.00	1750.00	1050.00	700.00
B204	Transportation and Placing Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished floor level of ground floor upto depth of 10m from FFL of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224). NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.	CUM	875.00	437.50	262.50	175.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A205	Providing, transportation and placing Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete all including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete complete as per specification & drawing below finished ground level upto a depth of 10m from FGL (For depths greater than 10m from FGL, extra over for additional depth to be paid in Item No A224), for the following.					
a	M 25 Grade	CUM	22203.00	11101.50	6660.90	4440.60
b	M 30 Grade	CUM	13125.00	6562.50	3937.50	2625.00
B205	Transportation and Placing Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete below finished ground level upto a depth of 10m from FGL including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For depths greater than 10m from FGL, extra over for additional depth to be paid in Item No A224), for the following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	M 25 Grade	CUM	6562.50	3281.25	1968.75	1312.50
b	M 30 Grade	CUM	3281.25	1640.63	984.38	656.25
A206	Providing, transportation and placing Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing upto 10m level above finished floor level of ground floor (For height greater than 10m from FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following.					
a	M 25 Grade	CUM	14802.00	7401.00	4440.60	2960.40
b	M 30 Grade	CUM	7401.00	3700.50	2220.30	1480.20
B206	Transportation and Placing Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete upto 10m level above finished floor level of ground floor including cost of labour for pouring, vibrating and curing, etc. complete as per drawing, specifications and as per direction of engineer in charge. (For height greater than 10m from FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	M 25 Grade	CUM	4375.00	2187.50	1312.50	875.00
b	M 30 Grade	CUM	2187.50	1093.75	656.25	437.50

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A209	Extra over St. No. A205 & A206 for controlling of temperature of fresh concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	1000.00	500.00	300.00	200.00
211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades					
b	M 25	CUM	175.00	87.50	52.50	35.00
A211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
b	M 25	CUM	43.75	21.88	13.13	8.75
212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at all level or thickness, drains etc complete as per following.					
a	0.043101852	CUM	1312.50	656.25	393.75	262.50
A212	Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at all level or thickness, drains etc complete as per following. NOTE: Ready Mix Concrete shall be issued at Batching Plant of other contractor.					
a	0.043101852	CUM	350.00	175.00	105.00	70.00
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					
b	M30	CUM	262.50	131.25	78.75	52.50
A213	Engineering, Design and drawing of Prestressed precast boundary wall as per specification and general arrangement (GA) of boundary wall furnished by BHEL, submission of design calculations and drawings, incorporation of comments in submitted drawings/calculations to finally obtain approved design calculations/drawings for construction at site. Preliminary general arrangement of boundary wall is enclosed along with tender document for information only. Actual general arrangement shall be furnished to successful bidder during detail engineering and no extra claim by the bidder shall be entertained on account of variation between actual GA & GA furnished with tender.	LS	1.00	1.00		

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
B213	Providing and laying factory manufactured Prestressed precast Reinforced concrete columns as per approved design and drawing submitted by bidder with design Mix cement concrete of grade M40 as per IS:456 & IS 10262-2009 using graded aggregate for Concrete in precast boundary-wall works. The work shall include cost of strands / reinforcement, formwork/moulds, provision of suitable grooves/matching key/pockets for fixing of wall panels, Y shaped MS posts for concertina etc., curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting for all leads, erection with required T&P without damage, setting in position inside foundation collar with M30 grade cement concrete with 10 mm down stone aggregates, etc all complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing.(Pockets/embedded plates for fixing of Y shaped MS posts for concertina shall be provided as per drawing, embedded plates, concertina and Y shaped MS post to be paid separately as per item no 2006/2007/2008). Bidder has to manufacture precast columns at factory equipped with required prestressing equipment and transport to site & store at identified location. Cost of transportation from factory to site etc. is included in this item. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FOR FACTORY MANUFACTURED PRE-CAST WORKS. (Payment Terms - a) For manufacturing of Prestressed Precast Columns - 40%, b) For Transportation, shifting, erection in position, etc - 60%)	CUM	1650.00	825.00	495.00	330.00
C213	Providing and laying factory manufactured Precast Reinforced concrete wall panels, copings, architectural features etc. as per approved design and drawing submitted by bidder with design Mix cement concrete of grade M30 as per IS:456 & IS 10262-2009 using graded aggregate for Concrete in precast boundary-wall works. The work shall include cost of strands / reinforcement, formwork/moulds, provision of suitable grooves/key for interlocking of panels after erection, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting for all leads, erection with required T&P without damage, setting in position with cement sand mortar (1:3), filling the gaps with cement sand mortar (1:3) , etc all complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing. Bidder has to manufacture precast items at factory and transport to site & store at identified location. Cost of transportation from factory to site etc. is included in this item. ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FOR FACTORY MANUFACTURED PRE-CAST WORKS. (Payment Terms - a) For manufacturing of Precast Panels - 40%, b) For Transportation, shifting, erection in position, etc - 60%)	CUM	2250.00	1125.00	675.00	450.00
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives conforming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.					
b	M30	CUM	13125.00	6562.50	3937.50	2625.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					
a	Plain cement concrete of all grades	CUM	100.00	50.00	30.00	20.00
b	Reinforced cement concrete of all grades	CUM	100.00	50.00	30.00	20.00
222	Cutting of groove of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	25.00	12.50	7.50	5.00
223	Cutting of existing concrete/ RCC slab (total thickness upto 250mm including floor finish & deck sheet if any) inside control room/ pump house or anywhere inside boundary using power tools of (DD2E of HILTI/ BOSCH make or equivalent) with low noise and dust including cutting reinforcements, removing the rubbish within a lead of 1 km, including making good the broken edges/ surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/ supporting at all level, all complete and as directed by Engineer (measurements shall be taken as per cutting surface area).	SQM	100.00	50.00	30.00	20.00
A224	Extra over item no. A201 to A205 and A214 for depth below FFL of ground floor (Finished Floor Level of ground floor) as per following:					
a	Depth exceeding 10m from FFL of ground floor but not exceeding 20m	CUM	250.00	125.00	75.00	50.00
A225	Extra over item no. A206 and A212 for height above FFL of ground floor (Finished Floor Level of ground floor) as per following:					
a	Height exceeding 10m from FFL of ground floor but not exceeding 20m	CUM	1000.00	500.00	300.00	200.00
b	Height exceeding 20m from FFL of ground floor but not exceeding 30m	CUM	1000.00	500.00	300.00	200.00
c	Height exceeding 30m from FFL of ground floor but not exceeding 40m	CUM	1000.00	500.00	300.00	200.00
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
A301	Fairface form work with good quality water proof ply wood with Filmface of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc. including chamfering of edges as per drawing, specification and instruction of engineer in charge.					
a	Upto Depth 10m From FGL	SQM	55507.00	27753.50	16652.10	11101.40
b	Depth exceeding 10m From FGL	SQM	437.50	218.75	131.25	87.50
B301	Only Fixing of already manufactured Formwork: Fairface form work with good quality water proof ply wood with Filmface of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc. including chamfering of edges as per drawing, specification and instruction of engineer in charge. (The manufactured formwork shall be issued by BHEL free of cost and agency shall return the formwork(scrap plus usable material) to BHEL store after use)	SQM	500.00	250.00	150.00	100.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A302	Fairface form work with good quality water proof ply wood with Film face of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing, for all heights as per specification, drawing and instruction of engineer in charge.					
a	For Height Upto 20m from FGL	SQM	70308.00	35154.00	21092.40	14061.60
b	For Height More Than 20m from FGL	SQM	4375.00	2187.50	1312.50	875.00
B303	Removing formwork at all elevations for all structures including all labour, specifications and as per direction of engineer in charge	SQM	5000.00	2500.00	1500.00	1000.00
304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
a	Upto 150 mm depth	EACH	100.00	50.00	30.00	20.00
b	Pockets of depths more than 150mm and upto 300 mm depth	EACH	50.00	25.00	15.00	10.00
c	Pockets of depths more than 300mm and upto 600 mm depth	EACH	25.00	12.00	8.00	5.00
d	Pockets of depths more than 600mm and upto 1000 mm depth	EACH	25.00	12.00	8.00	5.00
e	Pockets of depths more than 1000mm and upto 1500 mm depth	EACH	25.00	12.00	8.00	5.00
f	Pockets of depths more than 1500mm and upto 2000 mm depth	EACH	25.00	12.00	8.00	5.00
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.					
a	Extra for Curve Shuttering for Item No. 301	SQM	25.00	12.50	7.50	5.00
b	Extra for Curve Shuttering for Item No. 302	SQM	25.00	12.50	7.50	5.00
A305	Erecting, maintaining and dismantling scaffolding arrangement of required height and configuration using MS/GI pipes, couplers, clamps, joints, base plates, sole plates, braces, planks, ladders, safety rails and all other necessary accessories, complete in all respects, to enable execution of civil works at site, as per drawings, specifications and directions of Engineer-in-Charge. (Ownership of scaffolding materials lies with contractor) Payment Breakup: a) Supply & Receipt of material at site - 50% b) Execution & Services Associated with the item - 40% c) Dismantling - 10%	Cum	5000.00	2500.00	1500.00	1000.00
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge for the following:					
401	Providing, straightening, cutting, bending, placing in position at all level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00	12.50	7.50	5.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer. (BHEL to issue steel free of cost)	MT	8881.00	4440.50	2664.30	1776.20
B403	Horizontal steel R/F or Stirrups are required to be fixed over already fixed Vertical R/F: Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer for the following. (BHEL to issue steel free of cost)					
a	Fixing and binding in position at any level of exposed vertical steel R/F already erected.	MT	250.00	125.00	75.00	50.00
b	Fixing and binding in position at any level of Horizontal steel R/F or Stirrups.	MT	250.00	125.00	75.00	50.00
C403	R/F Steel available in the form of Curtailed and Bended Conditions as per BBS at existing vendor works: Transportation, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 / Fe-500D/ 500EQR/Fe 550 D or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from vendor stores, loading, Unloading etc complete all as per specifications, drawings and as directed by Engineer. (BHEL to issue the fabricated rebar R/F steel as per approved BBS free of cost)	MT	250.00	125.00	75.00	50.00
D403	Dismantling of already fixed reinforcement steel in position, loading, transportation to designated scrap yard, unloading, etc. complete as per direction of engineer.	MT	250.00	125.00	75.00	50.00
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall be conducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. A403.					
a	12mm Reinforcement bar	Nos.	25.00	12.00	8.00	5.00
b	16mm Reinforcement bar	Nos.	25.00	12.00	8.00	5.00
c	20mm Reinforcement bar	Nos.	25.00	12.00	8.00	5.00
d	25mm Reinforcement bar	Nos.	25.00	12.00	8.00	5.00
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge. (Material used for roof treatment shall be CFC & HCFC free. The contractor shall submit documentary proof to GRIHA consultant in support of same).					

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
511	Providing and applying two coats of bitumen grade 85/25 as per IS 702 ( @ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	2500.00	1250.00	750.00	500.00
600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
601	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	12 mm wide joints.	SQM	100.00	50.00	30.00	20.00
b	20 mm wide joints	SQM	500.00	250.00	150.00	100.00
c	25 mm wide joints	SQM	500.00	250.00	150.00	100.00
d	50 mm wide joints	SQM	100.00	50.00	30.00	20.00
603	Providing and applying polysulphide based sealant conforming to IS:12118 in joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:					
a	25mmX25mm	RM	100.00	50.00	30.00	20.00
b	50mmX25mm	RM	100.00	50.00	30.00	20.00
604	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	500.00	250.00	150.00	100.00
b	12mm X 25mm	RM	500.00	250.00	150.00	100.00
c	20mmX25mm	RM	500.00	250.00	150.00	100.00
A605	Supply and installation of Polystyrene flexible board conforming to IS 4671 ( type-1), 20 Kg/ Cum. as joint filler at joint of concrete including nailing, coating of both faces with coal tar pitch /butimen etc. all complete.					
a	100 mm thick	SQM	1000.00	500.00	300.00	200.00
A610	Providing and fixing ribbed PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)					
b	230 mm wide and 8 mm thick	RM	100.00	50.00	30.00	20.00
Ab	230 mm wide and 10 mm thick	RM	100.00	50.00	30.00	20.00
c	150 mm wide and 6 mm thick	RM	100.00	50.00	30.00	20.00
d	230 mm wide and 6 mm thick	RM	100.00	50.00	30.00	20.00
615	Providing and fixing 300 mm wide Stainless steel strips ( Grade SS 316) over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	150.00	75.00	45.00	30.00
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
701	Supply, fabricating and fixing/erection of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	25.00	12.50	7.50	5.00
702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	50.00	25.00	15.00	10.00
703	Same as above items 701 & 702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.					
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	25.00	12.50	7.50	5.00
B	Mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc.	MT	75.00	37.50	22.50	15.00
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
a	MS pipes of all diameters	kg	175.00	87.50	52.50	35.00
b	PVC pipes / conduits of all diameters	kg	550.00	275.00	165.00	110.00
c	UPVC pipes / conduits of all diameters	kg	75.00	37.50	22.50	15.00
d	Expansion anchor fasteners (galvanised) of HILTI make(HRD Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					
i	8mm Dia	Nos	100.00	50.00	30.00	20.00
ii	10mm Dia	Nos	100.00	50.00	30.00	20.00
iii	12mm Dia	Nos	100.00	50.00	30.00	20.00
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					
i	HST3 M8	Nos	10.00	5.00	3.00	2.00
ii	HST3 M10	Nos	10.00	5.00	3.00	2.00
iii	HST3 M12	Nos	10.00	5.00	3.00	2.00
iv	HST3 M16	Nos	10.00	5.00	3.00	2.00
v	HST3 M20	Nos	10.00	5.00	3.00	2.00
vi	HST3 M24	Nos	10.00	5.00	3.00	2.00
f	Chemical Expansion fasteners (galvanised)of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod,nuts,washers,chemicals all complete,etc:					

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
i	HAS-E5.8 M8	Nos	10.00	5.00	3.00	2.00
ii	HAS-E5.8 M10	Nos	10.00	5.00	3.00	2.00
iii	HAS-E5.8 M12	Nos	10.00	5.00	3.00	2.00
iv	HAS-E5.8 M16	Nos	10.00	5.00	3.00	2.00
v	HAS-E5.8 M20	Nos	10.00	5.00	3.00	2.00
vi	HAS-E5.8 M24	Nos	10.00	5.00	3.00	2.00
800	GROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level , drawings and as directed by engineer - in - charge.					
801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	10.00	5.00	3.00	2.00
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand ) using non shrink admixture etc. all Complete.	CUM	10.00	5.00	3.00	2.00
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips ) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	100.00	50.00	30.00	20.00
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	200.00	100.00	60.00	40.00
805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent as per specification, drawing and direction of engineer-in-charge.(Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	100.00	50.00	30.00	20.00
806	Providing Chemical (epoxy) injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved chemical, admixture, curing etc. all complete. Payment shall be made as per the consumption of chemical grout.	Kg	100.00	50.00	30.00	20.00
900	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
902	Providing and fixing teak wood frame panel door shutter as per IS 1003 with 35 mm x 150 mm vertical rail & 35mm x 125 mm horizontal rail and 12 mm thick interlocked panels of teakwood with proper wood joinery including beading, preparation of working drawings, godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fitting shall be anodised aluminium color dyed), screws, primer and finish painting / polishing etc. all complete. (Finish painting / polishing paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	15.00	7.50	4.50	3.00
903	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, particle board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides, approved ISI mark anodised fittings like door stopper, 300mm long tower bolts, 16x300mm long aldrops, 125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anodised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00	25.00	15.00	10.00
904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, side, top & bottom edges of shutter shall be reinforced by continuous pressed steel channel with min 18G, shop and final painting etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00	75.00	45.00	30.00
A904	Providing and fixing single or double steel door shutters with 35mm (min) thk flush design shutter comprising of two outer sheets of 16 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 18 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	250.00	125.00	75.00	50.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A905	<p>Providing and fixing electrically operated, self operable/closing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 (Grade of Aluminium shall be Alloy 63400) and anodized and electro color coating of required shade as per IS 1868 ( minimum anodized coating of grade AC15 ). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom &amp; sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures,Dorma, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred &amp; jointed mechanically wherever required. Weight of aluminium section only shall be measured. (Glazing shall be paid separately)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	20.00	10.00	6.00	4.00
A906	<p>Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 2 mm wall thickness as per IS:1285, IS:733,(Grade of Aluminium shall be Alloy 63400) and anodized (15 micron coating thickness) and electro color dyed of required shade as per IS 1868 ( minimum anodized coating of grade AC15) fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom &amp; sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear toughened glass of 8/10 mm thickness including snap fit type beading, concealed screws, fixtures, Dorma,Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred &amp; jointed mechanically wherever required. (Glazing shall be paid separately)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 50%                      b) Fabrication of aluminium section for making door - 25%                      c) Execution &amp; Services Associated with the item - 25%</p>	KG	5000.00	2500.00	1500.00	1000.00
908	<p>Providing and fixing steel windows/ventilator with steel sections as per IS:1038, IS:1361 &amp; IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting, glazing etc. all complete. (Glazing shall be paid separately)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 50%                      b) Fabrication of steel section for making windows/ventilators - 25%                      c) Execution &amp; Services Associated with the item - 25%</p>					
a	Openable type	SQM	200.00	100.00	60.00	40.00
b	fixed type	SQM	150.00	75.00	45.00	30.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A909	<p>Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) including all fittings &amp; fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measured.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 50%                      b) Fabrication of aluminium section for making door frame, windows, ventilators, partitions, etc. - 25%                      c) Execution &amp; Services Associated with the item - 25%</p>	Kg	25000.00	12500.00	7500.00	5000.00
B909	<p>Providing and fixing aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 2mm wall thickness) including all fittings &amp; fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) powder coated to required shade (minimum thickness of powder coating 50 micron ), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measured.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 50%                      b) Fabrication of aluminium section for making door frame, windows, ventilators, partitions, etc. - 25%                      c) Execution &amp; Services Associated with the item - 25%</p>	Kg	20000.00	10000.00	6000.00	4000.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A910	<p>Providing, fabricating, designing, supplying and fixing of Aluminium composite panel cladding (ACP) in pan shape in solid or metallic colour, wooden colour, stone finish of approved shades made out of 4mm thick aluminium composite panel (weight of panel should be minimum 8.1 kg/sqmt) material consisting of 3mm thick FR grade Class A2 as per EN 13501, mineral core sandwiched between two Aluminium sheets (each 0.5mm thick BMT). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF conforming to AAMA 2605 or Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. The top coated surface of ACP shall comply with the "specification for coated coil for the exterior building application" issued by ECCA (European Coil Coating Association). The aluminium composite panel top and bottom skin should conform to Aluminium Alloy 5005 (AlMg 1) marine grade series and H 22/24 temper with mechanical properties confirming to EN 485-2 standard. The ACP product must conform to Class A2, s1, d0 as per EN-13501-1. The manufacturer must furnish the FPC and Certificate of conformity of EN13501-1 for Class A2, s1, d0 from the certifiers and Product must be supplied from the Certified Unit which has been mentioned on the FPC and COC. The panel shall be designed for 12mm groove in horizontal &amp; in verticals with close joint system. Vertical &amp; Horizontal groove shall be filled by non-staining high performance weather sealant. ACP panel shall have sub frame all around panel and aluminium stiffener profile as per structural requirements. The finished surface of ACP shall be protected with a self-adhesive (Rubber based) peel off foil with 70 microns thickness white or black, tested to withstand up to 6 months' exposure to local weather condition without losing the original peel off characteristic or causing stain or other damages on the coated surface of the aluminium composite panel. Installation of ACP Copping/facia at terrace level sealing the top gap of the parapet wall and ACP Panel shall have GI stiffeners below with required aluminium grid work with necessary MS HDG / aluminium alloy brackets &amp; SS fasteners. 2nd barrier of 1mm thk GI sheet laid continuously below the copping to seal the parapet wall. Overlap of GI sheet shall be properly sealed with weather sealant, All shade shall be as per Architect's Approval. as per approved sample from Alucobond Plus, Aludecor, Alubond, Virgo or equivalent.</p>	SQM	10000.00	5000.00	3000.00	2000.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A910 cont..	The system shall be designed to withstand a wind pressure of 200kg/Sqm or as per design requirement and shall be fixed to the Masonry/RC walls or aluminium frame with necessary clamps, brackets and anchor fasteners etc. All clamps and brackets shall be Hot dip galvanized minimum 80 microns thick and shall conform to IS: 4759-1996. The extruded aluminium section shall be anodized in approved colour with a anodic coating of minimum 20 microns. Extruded section shall be 6063 T5 or T6 alloy conforming to ASTM B221. Any other festering straps, nuts, bolts, rivets, washers, etc. shall be in stainless steel SS316 grade. EPDM gaskets, open cell polyethylene backer rods, weather sealant etc. shall be provided as per requirement. Item shall include aluminium base frame with all fixing arrangements to wall/RC members, fastening material and hardware(festering straps, nuts, bolts, rivets, washers etc.), EPDM gaskets, open cell polyethylene backer rods, weather sealant, scaffolding, approach to all height, material handling, transportation, labour, T&P, preparation of working drawings etc.all complete as per drawing, specification & instructions of engineer in charge. Measurement of payment shall be outer finished area of ACP panel.The contractor shall provide the material cutsheet/ declaration from manufacturer mentioning the recycled content used in manufacturer of ACP. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
911	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type :					
a	Over head hydraulic door closures	Each	50.00	25.00	15.00	10.00
b	Floor mounted Hydraulic door closers	Each	50.00	25.00	15.00	10.00
A912	Providing and fixing pressed steel frames(complying general requirements of IS 4351) fabricated from 1.6 mm thick M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 50% b) Fabrication of steel section for making frames - 25% c) Execution & Services Associated with the item - 25%	Kg	10000.00	5000.00	3000.00	2000.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides of 75mm wide and 3mm thick(min.) and arrangements for inside and outside locking with push and pull operation including wire springs, top/hood cover 0.9mm thick (min.) , factory galvanized, primed & field painted, partly grilled (as required) with approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	Mechanically Operated	SQM	250.00	125.00	75.00	50.00
c	Electrically & Mechanically operated	SQM	1000.00	500.00	300.00	200.00
A914	Providing and fixing Solid core PVC doors (25 thk double skin) with PVC frame of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00	25.00	15.00	10.00
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
Ab	4 mm thick plain or tinted float glass	SQM	50.00	25.00	15.00	10.00
d	6 mm thick wired glass	SQM	1000.00	500.00	300.00	200.00
Ae	3mm thick Polycarbonate sheet with profile matching with metal sheeting shall be provided. The Polycarbonate sheets shall be fire and u/v resistant, and suitable for continuous use up to a temperature of 1000C. Suitable aluminium beading shall be used. The open ends of the sheet shall be sealed as per manufacturer's recommendations .	SQM	250.00	125.00	75.00	50.00
Ag	6 mm thick tinted heat reflecting toughened type float glass	SQM	100.00	50.00	30.00	20.00
h	6 mm thick clear toughened safety glass	SQM	100.00	50.00	30.00	20.00
h(a)	6 mm thick clear reflective toughened safety glass of Saint Gobain(India) or Asahi (India) or equivalent make and should have solar factor 25% or less, Maximum U-vlaue 3.3W/SQMK, VLT min 30%, light reflection internal 10 to 15%, light reflection external 10 to 20%, shading coefficient (0.25-0.28),values varies as per manufacturer specifications.	SQM	1000.00	500.00	300.00	200.00
Ah	6 mm thick clear toughened glass conforming to IS 2553.	SQM	2000.00	1000.00	600.00	400.00
AhB	8 mm thick clear toughened glass	SQM	250.00	125.00	75.00	50.00
AhC	8 mm thick clear toughened fire resistant glass	SQM	175.00	87.50	52.50	35.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	300.00	150.00	90.00	60.00
I(a)	composite double glazing, 25 mm thick 2 hr fire rated, with one outer 6 mm thick tinted heat-reflecting type toughened glass and one inner 11mm thick clear toughened glass hermetically sealed and seperated by 8 mm thick gap for thermal insulation (only single elevation area to be measured) with suitable frame of min 1.6mm galvanised steel sheet. The glass to be used should be from the manufacturers of glass like Glavebel (Belgium), Saint Gobain (France) or Fort (USA) Or equivalent. The glass should be free from distortion and thermal stress.	SQM	100.00	50.00	30.00	20.00
I(b)	composite double glazing of fire resistant glass MIN.30 mm thick Hermetically sealed double glazed unit of one Fire resistant glass of min.14mm thick (outer side) clear, toughened, interlayered glass with 120 minute fire rated for both integrity & radiation control (EW 120) with symmetrical (Bi-Directional) fire protection and 6 mm thick toughened tinted glass (Inner side) with 10 mm air gap etc all complete as per specification.	SQM	100.00	50.00	30.00	20.00
I(c)	One outer 6mm thick tinted heat-reflecting toughened glass and one inner 6mm thick clear toughened float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).The glazing to be used in all exterior walls shall be of Saint Gobain or equivalent.The glazing to be used should comply to mentioned standards VLT (Visible Light Transmittance) $\geq 62\%$ , SHGC/ SF (Solar Heat Gain Coefficient/ Solar Factor) $0.2 \leq 0.32$ and U- Value 1.2 TO 2.5 W/MSq K,The properties of performance glass shall be as per detail design values as approved by engineer incharge.The glass to be used should be from the approved manufacturers of glass and should be free from distortion and thermal stress.	SQM	250.00	125.00	75.00	50.00
I(d)	Fire rated glass min.14mm thick fire resistant clear, toughened, interlayered clear 120 min fire rated for Integrity, Radiation control (EW 120) and partially insulation (EI 20) Non Wired Toughened Interlayered glass complying to BS476 Part22 or (EN-1634-1 :1999 ) with a light transmission of 86% according to EN410 standards and sound reduction of $\geq 37$ dB and manufactured in UL & TUV audited Facility and including UL-EU Certification and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested and certified for no formation of bubbles or yellowing after 5000 hours of exposure to UV radiation by TUV Rheinland as per EN 12543-4 The glass shall provide bidirectional (Symmetrical) fire protection. as per specification and instruction of engineer in charge.	SQM	350.00	175.00	105.00	70.00
An	8 mm thick laminated toughened glass	SQM	150.00	75.00	45.00	30.00
Aq	6mm thick laquered glass as per approved shade colour and design.	SQM	25.00	12.50	7.50	5.00
Ar	Heat Strengthened Coloured tinted float glass 6mm thick substrate with reflective soft coating on outer face+12mm Airgap + 6mm Heat Strengthened clear Glass of approved make, having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25- 0.28) and U value of 1.5 to 1.7W/ m2 degree K etc. The properties of performance glass may varies as per decided by technical sanctioning authority as per the site requirement.	SQM	50.00	25.00	15.00	10.00
917	Providing and fixing 12 mm thick BWP particle board, decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	1050.00	525.00	315.00	210.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
919	Providing and fixing 1 mm thk. MS sheet sliding shutters with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	50.00	25.00	15.00	10.00
A920	Providing and erecting Roof skylight structure with 4mm thick embossed clear translucent polycarbonate IR sheet, both side UV coated, minimum 55% light transmission, solar control, approved make, texture and shade, fixed to powder coated Aluminium section with 60mm width top & bottom with EPDM rubber gasket in approved shape like dome, pyramidal etc, sealing of joints with sealent, screws with pvc cap, self tapping screws, EPDM rubber gasket.etc as per drawing, standards, specification, instruction of engineer in charge etc all complete.(Structural Steel will be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00	250.00	150.00	100.00
1000	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge.					
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	875.00	437.50	262.50	175.00
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	CUM	3500.00	1750.00	1050.00	700.00
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2(including cost of cement for brick making)	SQM	175.00	87.50	52.50	35.00
1014	Extra over item no. 1002 for height above FGL (Finished Ground Level) as per following:					
a	Height exceeding 10m from FGL but not exceeding 20m	CUM	150.00	75.00	45.00	30.00
b	Height exceeding 20m from FGL but not exceeding 30m	CUM	50.00	25.00	15.00	10.00
c	Height exceeding 30m from FGL but not exceeding 40m	CUM	25.00	12.50	7.50	5.00
1015	Extra over item no. 1003 for height above FGL (Finished Ground Level) as per following:					
a	Height exceeding 10m from FGL but not exceeding 20m	SQM	100.00	50.00	30.00	20.00
b	Height exceeding 20m from FGL but not exceeding 30m	SQM	50.00	25.00	15.00	10.00
c	Height exceeding 30m from FGL but not exceeding 40m	SQM	25.00	12.50	7.50	5.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1100	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.					
b	50mm thick	SQM	500.00	250.00	150.00	100.00
1200	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	14000.00	7000.00	4200.00	2800.00
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	26250.00	13125.00	7875.00	5250.00
1207	Forming groove of uniform size from 12X12 mm upto 25X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	500.00	250.00	150.00	100.00
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	875.00	437.50	262.50	175.00
1300	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
1301	Two or more coats of white wash/ colour wash as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	200.00	100.00	60.00	40.00
A1304	Two or more coats of Low VOC (volatile organic compound, less than 50g/L) acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete. All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge	SQM	12500.00	6250.00	3750.00	2500.00
1305	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1500.00	750.00	450.00	300.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1305	Providing and applying two or more coats of low VOC (volatile organic compound) acrylic emulsion paint as per IS 15489, relevant latest code of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline. Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge.	SQM	5000.00	2500.00	1500.00	1000.00
A1306	Providing and applying 2 or more coats of oil resistant paint(epoxy based & minimum 150 micron thickness) of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1500.00	750.00	450.00	300.00
B1306	Providing and applying 2 or more coats of acid/alkali resistant paint (epoxy based & minimum 150 micron thickness ) of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying primer complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	1400.00	700.00	420.00	280.00
1307	Providing and applying two coats of Epoxy coating with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 150 micron thickness over epoxy primer.	SQM	100.00	50.00	30.00	20.00
1308	Providing and applying 2 or more coats of Chlorinated Rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	100.00	50.00	30.00	20.00
1309	Two or more coats of fire resistant transparent paint (@3.5 sqm per litre per coat) as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications. French polish payment will be made seperately.	SQM	100.00	50.00	30.00	20.00
A1311	Two or more coats of synthetic enamel paint of approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to all interior and exterior surfaces complete. Note: The paint should have VOC content limit less than 150 grams per litre All necessary documentation (certificates, manufacturer declarations ) should be provided by the contractor to engineer in charge.	SQM	100.00	50.00	30.00	20.00
1312	Providing and applying 3 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	1250.00	625.00	375.00	250.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1313	Providing and applying ready made Epoxy Paint over areas other than steel structure/flooring with suitable pigments of approved shade as per specification and direction of Engineer. Epoxy Painting shall be provided with surface preparation of concrete substrate with Captive Shot Blasting Machine OR Light Grinding to form the required anchor profile on the floor substrate followed by application of epoxy resin based moisture barrier underlay of 2 mm thickness including filling of saw cut joints with epoxy cementitious resin based moisture barrier underlay as per manufacturer specification. Application of self smoothing epoxy floor topping of epoxy based resin of 2 mm thickness over epoxy resin based moisture barrier underlay including application of solvent free epoxy resin based two component primer shall include application of PU Sealant at Expansion and Isolation Joint respectively including surface preparation of the joint, fixing of backup strip and application of sealant etc all complete as per specification. The epoxy coating shall be a two pack material and shall be resistant to water, oil, splash, spillage & acidic environment. The epoxy paint coating shall be of minimum 4 mm thickness.	SQM	500.00	250.00	150.00	100.00
A1314	Providing and applying resin bonded granular textured finish,shall consist of crushed stone/special quality Silica quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, acrylic modified exterior adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film nominal thickness of 2.5 mm from approved manufacturer Asian ,Luxture, Berger or equivalent.The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	75.00	37.50	22.50	15.00
A1315	Providing and applying three coats of Solvent based (100% pure acrylic co-polymer resin based) paint (shall not contain any water sensitive ingredients)of approved brand and manufacture and required shade over one coat of primer or one coat of cement paint after necessary cleaning/ washing, removing loose & flaking materials, removing mould, algae, organic growth & grease, preparing the surface using coir brush/ wire brush, sand paper, including all required tools, material, scaffolding and other painting accessories, filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish. The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	75.00	37.50	22.50	15.00
A1317	Providing and applying 2 mm thick Acrylic wall putty punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	25000.00	12500.00	7500.00	5000.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1319	Providing and applying two or more coats of weather coat paint of Premium Acrylic Smooth Paint with Silicone additives, over and including Texture base coat, of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification. Textured base coat (Two or more coats applied @ 6.5Kg/10 sqm over and including priming coat of exterior primer applied @ 2.20Kg/10 sqm) of High Quality Exterior Acrylic Modified resin and special quality Silica Quartz with Trowel Texture (Asian / Dulux / Nerolac / Berger / Equivalent as per selection).	SQM	12500.00	6250.00	3750.00	2500.00
1400	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2(1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges etc. all complete The ratio of approved quality metallic hardening compound and cement shall be 1:4.(Quoted item rate shall be inclusive of providing glass joint strips).	SQM	7500.00	3750.00	2250.00	1500.00
B1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non- metallic hardener pigmented topping 12mm thick uniform graded hardener in flooring. Under layer of 38mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 12mm thick hardener concrete of mix 1:2(1 (1 cement hardner mix with approved quality non-metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including as per manufacturer specification, cement slurry, rounding off edges etc. all complete.The ratio of approved quality hardening compound and cement shall be 1: 4 as per approved sample and manufacturer specification. (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	15000.00	7500.00	4500.00	3000.00
A1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, etc. all complete as per specification.The ratio of approved quality metallic hardening compound and cement shall be 1: 4.	SQM	100.00	50.00	30.00	20.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
B1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with Non-metallic hardener pigmented topping of 10 mm thick uniform graded in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick with hardener concrete of mix 1:2 (1 cement hardner mix with approved quality hardening compound :2 stone aggregate 6mm nominal size) by volume as per manufacturer specification including,cement slurry, rounding off edges etc. all complete as per specification.The ratio of approved quality hardening compound and cement shall be 1: 4 as per approved sample and manufacturer specifcation.	SQM	500.00	250.00	150.00	100.00
C1402	Providing and laying 25 mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates ) with 10 mm thick uniform graded particles in skirting and dado. Under layer of 15mm thick cement concrete mix 1:1.5:3 (1 cement: 1.5 sand : 3 stone aggregates 12.5 mm well graded) and top layer of 10mm thick cement mortar 1:2 (1 cement :2 sand) by volume including cement slurry, rounding off edges etc. all complete as per specification.	SQM	100.00	50.00	30.00	20.00
A1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum/quartz chips topping pigment content is 3.5 kg per 50 Kg of white Cement) of size 300X300X25mm thick of approved shade as per IS 1237, including minimum 20mm cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry@4.4 kg/sqm,labour,materials, etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grinding and polishing complete with laying as per IS 1443 etc.(inclusive of cost of cement for tiles manufacturing) all complete for following: Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Laid in floors	SQM	2500.00	1250.00	750.00	500.00
A1404	Providing and laying interlocking M35 Grade concrete blocks in paving with approved colour and pattern and should be laid on the subbase and bedding of sand minimum 20mm thick as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	80mm	SQM	2500.00	1250.00	750.00	500.00
1410	Marble stone Flooring laid in 50mm overall thickness with 18-20mm thick marble slabs (grade -1) with minium 30mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level.The marbel slabs/tiles laid over underbed with mortar 1:3, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00	25.00	15.00	10.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1412	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	750.00	375.00	225.00	150.00
A1412	Providing and laying 20mm thick Mirror polished (6 layers of polish)/Flame finish (making top surface rough by burning / shot blasting) Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30mm thk of 1 cement : 1.5 sand : 3 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, moulding, cornice, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	250.00	125.00	75.00	50.00
1416	Providing and laying vitrified ceramic tiles of polished variety of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	<b>10mm thick tiles In flooring</b>	SQM	300.00	150.00	90.00	60.00
B1416	Providing and laying heavy duty Antiskid full body vitrified tiles 18-20 mm thick of size 600x600mm in flooring, of approved shade, colour, pattern and make from reputed / approved manufacturer as Simpolo, Varmora or equivalent, complete including underbed of cement mortar 1:3 minimum 30mm thick for flooring with neat cement slurry @3.3Kg/sqm etc. all complete. Full body Vitrified Tiles shall be laid on properly laid levelled floor, with joints 3 to 5mm wide & 8 to 10mm deep & shall be filled with approved Epoxy Grout mix of 0.70kg of organic coated filler of desired shade (0.10kg of hardener and 0.20kg of resin per kg). Full body Vitrified Tiles shall have water absorption less than 0.5%, Modulus of Rupture more than 38N/mm <sup>2</sup> , Breaking strength more than 7500N, Moh's scale more than 6, Abrasion resistance less than 144 mm <sup>3</sup> and coefficient of friction more than 0.4. Vitrified Tiles shall generally conform to IS: 15622. All complete (including cost of epoxy grouting) as per engineer incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	3500.00	1750.00	1050.00	700.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
D1416	Providing and laying matt finish vitrified ceramic tiles of polished variety of size 600x600 / 800x800 of approved shade, colour, pattern and make from reputed / approved manufacturer as Simpolo,Varmora or equivalent , complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc.,3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete, Luxtire or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	9.0 mm (min.) thick tiles In flooring	SQM	1000.00	500.00	300.00	200.00
b	9.0 mm (min.) thick tiles In dado	SQM	250.00	125.00	75.00	50.00
1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following:- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
d	10mm thick tiles In skirting and dado upto specific height	SQM	75.00	37.50	22.50	15.00
A1417	Providing and laying Digitally vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including minimum 40 mm thick underbed of cement mortar 1:4 for flooring and 12mm thick underbed of cement mortar 1:3 for dado / skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following:- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	9.00 mm (min.) thick tiles In flooring	SQM	2500.00	1250.00	750.00	500.00
d	9.00 mm (min.) thick tiles In skirting and dado upto specific height	SQM	100.00	50.00	30.00	20.00
B1417	Providing and laying vitrified ceramic tiles of matt finish variety of size 1000X1000 from reputed / approved manufacturer, complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc. with 3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete,Luxtire or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	9.5 mm thick tiles In flooring	SQM	750.00	375.00	225.00	150.00

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
C1417	Providing and laying vitrified ceramic tiles of matt finish polished variety of size 1000X1000 from reputed / approved manufacturer Simpolo, varmora or equivalent, complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc. with 3mm groove joints as per approved pattern pointed neatly with 3X4 mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	10 mm thick tiles In flooring	SQM	150.00	75.00	45.00	30.00
c	10 mm thick tiles In skirting and dado upto specific height	SQM	50.00	25.00	15.00	10.00
A1418	Providing and laying 10 mm thk non-skid fully vitrified tiles of approved manufacturer simpolo, varmora or equivalent in flooring and skirting over 30 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern of following :- Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	600X600 mm	SQM	350.00	175.00	105.00	70.00
1419	Providing and laying granite stone slab of 20mm thickness single piece for wash basin / sink slab /facia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting,making corners,moulding and opening etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00	25.00	15.00	10.00
1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick of reputed manufacturer of approved finish shade and colour including 20mm underbed of cement mortar 1:3 with neat cement slurry @3.3kg/sqm etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	300X300 mm	SQM	50.00	25.00	15.00	10.00
A1420	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick Designer glazed/matt finish of reputed manufacturer Simpolo, varmora or equivalent of approved finish shade and colour on walls, skirting etc.including 20 mm underbed of cement mortar 1:4 in flooring and cement mortar of 1: 3 for skirting/dado with neat cement slurry etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	300X300 mm	SQM	250.00	125.00	75.00	50.00

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ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles comply to IS:4457 and shall be laid over bitumastic lining of min 12mm thick ( to be laid in layers of 6mm each). The tiles shall be applied in flooring/Dado of reputed / approved manufacturer Simpolo, varmora, Naya Rangoli or equivalent of approved finish, shade and colour with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing, pointing joint of bedding 20mm deep x 6mm wide with epoxy/Furane mortar etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	20mm thick	SQM	1000.00	500.00	300.00	200.00
B1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) tiles (75mm thick) conforming to IS:4457 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by min.12mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR tiles shall be filled with resin type mortar of reputed / approved manufacturer Naya Rangoli, Berger or equivalent conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00	75.00	45.00	30.00
C1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (115 mm thick) conforming to IS:4860 in the walls of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type mortar of reputed / approved manufacturer Naya Rangoli, Berger or equivalent conforming to IS:4832, part II, of seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00	75.00	45.00	30.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1425	Providing and laying polished Marble slabs (rajnagar plain white or equivalent approved shade/color /design) 20 mm thk in staircase landing/skirting and corridors over minimum 30 mm thick underbed of 1 cement : 1.5 sand : 3 stone aggregates by volume mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including moulded marbel nosing, pigments, curing, grinding, making corners, granite polishing etc. complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00	250.00	150.00	100.00
1426	Providing and laying marble skirting /dado (Approved shade/color /design) equivalent of minimum 20mm thickness projecting 6mm from adjacent plaster all complete including underbed 20mm cement mortar 1:3, with thick cement slurry 3.3kg/sqm spread over the surface scaffolding etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	20.00	10.00	6.00	4.00
A1427	Providing and fixing Designer digitally glazed ceramic tiles of approved color and design as per IS: 15622 of size 300x300mm / 300x450mm, 300X600 of reputed / approved manufacturer Simpolo, varmora or equivalent of approved finish, size in dado, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete as instructed by engineer incharge for following thicknesses. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	5mm thick	SQM	350.00	175.00	105.00	70.00
b	7mm thick	SQM	350.00	175.00	105.00	70.00
A1428	Providing and laying 2mm thick heavy duty antistatic PVC(Virgin) tile in flooring / skirting of approved shade, from reputed / approved manufacturer Naya Rangoli, robina or equivalent as per IS:3462 and laying as per IS:5318 all complete as per specficaitons. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00	50.00	30.00	20.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1429	<p>Providing and fixing Removable type flooring system (raised access floor) consisting of of fire resistant Cementitious panels of 600 x 600x 35 mm and Laminated with 1.2 mm thick fire retardant food grade antistatic laminate top finish to ensure max bonding to the steel surface. Cementitious panels shall be steel welded construction, with an enclosed bottom pan of 64 hemispherical and top plain sheet which are fuse welded at multiple location to form a panel. The panel is coated with 40-60-micron epoxy coat after cleaning, de-greasing, phosphate by several tank processes &amp; is heated to achieve max adhesion to the panel surface &amp; corrosion resistance. The inner empty core of the panel is injected with a light weight fire retardant, non-combustible cementitious compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. Pedestal (300mm – 800 mm) must be 25mm dia. pipe with min.2.0 mm thickness with bottom plate of 100x100x min.2.0mm thick &amp; top plate must be 75x75x3.0 mm. All pedestal shall be tightening to Stringer of 20x30x575x1.0 mm Rectangular tube. The system shall be design and taken approval for Uniformly distributed load (UDL) of 13 KN (1300 kg/ sqm), for the same all complete as per specification. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint etc complete as per specification.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00	50.00	30.00	20.00
A1431	<p>Providing and fixing, laying min.15mm wodden panel flooring and skirting of pergo,Robina,greenlam or equivalent multi-layered engineered wooden planks treated with VOC free lacquers and stains to provide extra strengthening, longevity and durability to planks. In all planks each layers are arranged at cross grain to each other for provide the balancing and stability to all three layers. Top layer of flooring is made up of about 3.0 mm thick thermosetting re-polish able natural veneer setting on a core of about 10 mm thick pine wood that produce natural characteristic of wood with 2.0mm thick bottom ply based veneer balancing layer. The planks are joint to each other through plankloc system with glue less technology system and laid on 2mm thick dual barrier underlay protecting sheet having anti-bacterial, Anti-termite, fire-resistant, noise reduction, high wear and abrasion resistance, water resistant properties. The system includes all accessories like beading, Quadrant, Veneered/solid wood skirting, end profile etc.as per as per manufacturer specification and approved by Engineer Incharge.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	150.00	75.00	45.00	30.00
B1431	<p>Providing and laying minimum 50 mm thick wooden flooring, consisting of 35 mm thick hardwood planks, finished with min. 15mm thick wooden flooring of greenlam, pergo or equivalent with min. plank size 193x1195mm (material class shall be 34 as per EN13329) of approved color and shade, over 2 mm expanded polystyrene foam and polythene sheet under laying all complete as per manufacturer specification.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00	50.00	30.00	20.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1432	Providing and laying Decorative/designer pre-polished, plain and pigmented, high wearing resistance concrete tiles of 20mm thickness (minimum) in various non-standard interlocking patterns of approved color,shade all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00	50.00	30.00	20.00
A1433	Providing and laying Tactile, tac liner & tac button fully vitrified unglazed porcelain tile (for guiding band/s for visually impaired persons), size 300x300 15mm thick having Tile body 10mm thick plus profile 4.5mm thick. Low water absorption below 0.5%. MOR > 38NCM2, MOH Hardness >7 & Breaking strength > 4000 N. Tile confirming RNIB (The royal national institute for the blind, UK) , DETR (Department of the environment, transport and the regions, UK), & ADA (American With Disabilities Act, USA) , high stain and chemical resistance. Confirming IS 4457: 2007. Tile will be laid on 20mm thick cement & sand mortar with cement slurry having 4mm spacer & pointing with 3X4mm stainless epoxy grout / polymer based SP- 100 of Laticrete or approved equivalent in approved colour. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00	50.00	30.00	20.00
A1434	Providing and fixing carpet flooring over cement concrete floor. The carpet shall be of tile/roll form, machine/hand made tupled un-cut loop pile and lay with under lay of 10mm thick and shall be laid as per manufacturer's recommendations, in matching grains, treated with anti fungus and anti-termite before laying etc all complete as per specification.(Cement concrete flooring to be paid separately)	SQM	100.00	50.00	30.00	20.00
A1435	Providing and fixing Glass mosaic tiles at finished plain wall surface of size 24 mm x 24 mm x 3.8 mm thick (minimum) in in decorative murals and pattern of approved colour, shade, design , fixing in customize design, as per direction of Engineer-in- Charge. The glass mosaic tiles to be fixed on the vertical wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-in- Charge.: Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00	250.00	150.00	100.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1436	Providing and fixing Rubber flooring over cement concrete floor min. 4mm thick conform to IS 809, consist of 100% virgin elastomer reinforcing agents, resins, curing agents, anti-oxidants and pigments.The rubber flooring shall be of tile/roll form, machine/hand made tupled un-cut loop pile and lay with suitable under lay and shall be laid as per manufacturer's recommendations, in matching grains, treated with anti fungus and anti-termite before laying etc all complete as per specifications. Rubber flooring shall have excellent abrasion resistance,comply to class-I fire rating,acid & alkali resistant and shall be of anti static grade.(Cement concrete flooring to be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	150.00	75.00	45.00	30.00
1500	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1504	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa complying AS1397 and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with silicon modified polyester (SMP with silicon content of 30% to 50%) paint or Super Polyester paint of minimum dry film thickness (DFT) 20 microns(nominal) over suitable primer coat of 5mm DFT(nominal). Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 10 microns(nominal) over suitable primer of 5mm DFT(nominal). The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	4000.00	2000.00	1200.00	800.00

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1505	Designing, providing and fixing External/ Inner sheet of Permanent colour coated metal cladding / roofing with troughed M.S. sheets of minimum 0.5 mm bare metal thickness of min. grade G350 as per AS1397/grade SS340 class 4 or as per ASTM A792M/ grade S350 GD as per EN 10326 with zinc coating to class Z275 / aluminium zinc alloy coating to class AZ150 on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing, etc. all complete over columns, beams, bracings etc. at all levels. The exposed face the sheet shall be permanently coated with silicon modified polyster(SMP silicon content 30%-50%) paint or super polyster paint of minimum 20 micron DFT on exposed surface over primer coat of minimum 5 micron and minum 10 micron SMP or super polyester paint over primer coat of minimum 5 micron on other face. SMP and polyster paint system sahill be of industrial finish of product type 4 of AS/NZ2728. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	25000.00	12500.00	7500.00	5000.00
1511	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturer's recommendations. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a)	For insulation in Sandwich Cladding	SQM	850.00	425.00	255.00	170.00
1512	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including wrapping in black polythene black supported over weld mesh 75X75X1.6 MM dia to hold in position and application of glue & tying with lacing wire, for glass/rock wool as per manufacturer's recommendation. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
c)	Mineral wool/rock wool insulation(density 48 kg/cum) bound in polythene bags laying on top of false ceiling panels at all height and levels as per instruction from engineer in-charge.	SQM	700.00	350.00	210.00	140.00
A1514	Providing and fixing underdeck insulation with resin bonded rock wool /Mineral wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum with minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.6 mm dia and 25 mm mesh GI wire netting, fixed with 2mm wire ties at various elevations with rawl plugs including clips, etc complete as per specifications and instructions of the engineer incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	5000.00	2500.00	1500.00	1000.00

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**PROJECT: Various project sites of BHEL across India**

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1517	<p>Providing and fixing 1 mm thick corrugated/semicorrugated G.I. sheet in roofs, cladding of minimum galvanisation of 275 gsm total on both sides with minimum 150mm overlapping, 8 dia G.I. hook bolts or 'J' Bolts and nuts @305 mm c/c along with G.I. and bitumen washers including cutting of sheets for opening etc. all complete.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	325.00	162.50	97.50	65.00
A1519	<p>Designing, providing and fixing Factory made (Continuous Line) prefabricated sandwiched Permanent colour coated metal cladding comprising top sheet as troughed(minimum depth of trough shall be 30 mm) permanently colour coated sheet &amp; bottom sheet as plain permanently colour coated for covering of exposed metal/concrete / brick surfaces with insulation shall be of Polyurethane type of minimum 50mm thick (excluding trough). The polyurethane shall be Chlorofluorocarbon (CFC) free and self-extinguishing and shall conform to IS 12436: 1988. It shall have Modular Density 40 +/- 2 Kg/m<sup>3</sup> and Thermal Conductivity @ 10 Deg.C 0.017 - 0.020 W/M Ok, Water absorption (% by vol) 3.1, Critical Oxygen Index 23 and Compressive Strength 1.2 Kg/sq.cm, sandwiched between the two sheets, each sheet shall be high strength tensile steel sheet 0.5mm bare metal thickness (minimum) of YS350 as per IS 15961 /grade G350 as per AS1397 / grade SS340 class 4 as per ASTM A792M / grade S350GD as per EN 10326 with zinc coating to class Z 275 / aluminium-zinc alloy coating to class AZ150 on both sides, both sheet shall be permanently coated with silicon modified polyester (SMP with silicon content of 30% to 50%) paint of minimum 20 micron DFT on exposed surface on 5 microns (min.) epoxy primer/phosphate primer coat and 10 micron (min.) SMP on 5 micron (min.) epoxy primer/phosphate primer on other face, SMP paint system shall be of industrial finish of product type 4 of AS/NZS 2728, troughed sheet shall be of approved profile, sectional properties, (suitable for the specified loading / deflection and purlins / runner spacing), colour and shade, at all levels, including all labour, materials, equipment, handling, transportation, special coated fastener conforming to corrosion resistant Class 3 of AS3566 and tested for 1000 hours salt spray test, fixing insulated sandwiched metal sheet with the structural members below for supporting the sheeting system, scaffolding, equipment, end and side laps, cutting of openings, preparation of working drawings, testing, etc., all complete, as per specifications. Sealant used for cladding shall be butyl based, two parts poly sulphide or equivalent approved, non stainless material and be flexible enough not to interface with fit of the sheets. Coated surface shall be provided with a protected guard film (polyethylene) of about 40 microns to avoid any damage to the coating during handling. Overlap shall be min. 100 mm or as specified by manufacturer.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%</p>	SQM	2500.00	1250.00	750.00	500.00
1600	<p>FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge.</p>					

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**PROJECT: Various project sites of BHEL across India**

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1601	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
aa	12.5mm thick GRG board conforming to IS: 2095 with galvanised light gauge steel load bearing supporting GI frame (minimum 0.8mm thk and grid size of 600x1200mm.) and finished flat (seamless).	SQM	100.00	50.00	30.00	20.00
b	12 mm thick GRG board in profile (dome ,curved profiled etc.) with galvanised light gauge steel load bearing supporting GI frame and finished smooth (seamless).	SQM	100.00	50.00	30.00	20.00
A1601	Providing and fixing 12.5 mm thick tapered/square edge glass fibre reinforced gypsum board conforming to IS:2095 having fine texture finish including providing and fixing of frame work at all levels, for all kind of work, consisting of light weight galvanised steel member (minimum 0.8 mm thick and galvanised as per IS : 277) having maximum grid size of 1200 mm x 600 mm for supporting panels of specified size, suspended from RCC slab/ structural steel or catwalkway grid above, with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm width along the perimeter of ceiling, supporting grid system (minimum 0.8 mm thick and galvanised as per IS : 277 ), expansion fasteners for suspension arrangement from RCC, providing openings for AC ducts, return air grills, light fixtures, etc., all complete. (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00	50.00	30.00	20.00

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1602	<p>Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required M.S. channel shall be measured &amp; paid extra under respective item unit rate. (All mineral fiber board to be used should be with appropriate % of recycled content.)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	2500.00	1250.00	750.00	500.00
A1603	<p>Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon Hunter douglas, Newage or approved equivalent with corrosion resistant aluminium alloy panels of size 600 mm x 600 mm and min.0.6 mm thk. with clip on torsion spring system ,perforation patterns in combination with built in nonwoven tissue, acoustic fleece for providing good acoustic properties with NRC 0.7 and installed with silhouette T-Grid (of profile 24 mm) in same or contrasting colours or with 6 mm recess joints. The whole system shall be level adjusting arrangement and shall be suspended as per manufacturer. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	5000.00	2500.00	1500.00	1000.00
B1603	<p>Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon 150C,300C, of Hunter douglas, Newage or approved equivalent with corrosion resistant aluminium alloy (grade 3105) panels of of minimum thickness 0.6mm with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.55. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00	250.00	150.00	100.00

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1604	<p>Providing, fixing and laying permanently colour coated Designer metal aluminium false ceiling of approved colour with stove enamel finish of approved make of Luxalon Hunter douglas, Newage or approved equivalent in LINEAR, RECTANGULAR, SQUARE, CURVILINEAR, OPEN GRID type etc. as per detail engineering drawing, with corrosion resistance aluminium alloy (grade 3105) panels of minimum thickness 0.6mm, with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.7. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc. Suitable M.S. channel (minimum MC 75) grid 1200 mm C/C maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Structural steel works for platform for movement is separately payable under relevant items of BOQ)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00	250.00	150.00	100.00
B1604	<p>Providing, fixing and laying permanently colour coated Designer metal Batten panel aluminium false ceiling of colour with stove enamel finish of approved make of Luxalon Hunter douglas, Newage or approved equivalent in combination with demountable translucent stretch ceiling members etc. as per detail engineering drawing &amp; manufacturer specification with corrosion resistance aluminium alloy (grade 3105) panels of minimum thickness MIN. 0.6mm. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures etc. Suitable M.S. channel (minimum MC 75) grid 1200 mm C/C maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer. (Structural steel works for platform for movement is separately payable under relevant items of BOQ)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00	60.00	36.00	24.00
1605	<p>Providing, fixing and laying anodised natural colour matt finished aluminium false ceiling of Jindal/Hindalco make with corrosion resistance aluminium alloys panels of minimum thickness 0.5mm. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00	60.00	36.00	24.00

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1606	<p>Providing and Fixing 12mm thick Gypsum board plain/perforated false ceiling tiles(600x600mm) of India Gypsum or equivalent make in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete.as per architectural design and detail.metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated.suspension system shall be as per manufacturer's specification supported over movment platform.The work to be complete as per specifications, drawings and direction of engineer.( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00	60.00	36.00	24.00
1607	<p>Providing and Fixing 12mm thick Gypsum board plain/ mineral fibre based acoustic ceiling board in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete.as per architectural design and detail.metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated.suspension system shall be as per manufacturer's specification supported over movment platform. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00	60.00	36.00	24.00
A1607	<p>Providing and Fixing 12mm thick Calcium silicate board of HILUX or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). Work shall include 25mm thick resin bonded mineral wool insulation (as per IS:8183) bound in polythene bags on top of ceiling. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	500.00	250.00	150.00	100.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1608	<p>Providing &amp; fixing 12.5 mm thick glass fibre reinforced gypsum plastic board in plan curve or in elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete, as per architectural design and detail, metal suspension system as per ASTM C-635 shall be hot dipped MS galvanized (grade 180 as per IS:277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24 mm wide exposed flange surface shall be permanently color coated.suspension system shall be as per manufacturer's specification supported over movment platform. The work to be complete as per specifications, drawings and direction of engineer.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	120.00	60.00	36.00	24.00
A1608	<p>Providing and fixing Pre-Painted Coil coated Steel false ceiling system, at all level, for all kind of works, in approved pattern,consisting of 0.5 mm thick galvanised as per IS 277 including 50mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. , along with galvanised supporting steel members exposed faces of galvanised member to be prepainted with regular modified polyester coating / super polyester coating minimum 20 DFT, to form panels of specified size for tile type panels and roll formed stove enamelled 0.6 mm thick steel carrier, for fixing of lineal type panels by clip on arrangement, suspended from RCC slab / structural steel or catwalk way steel channel grid above with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm leg width along the perimeter of ceiling, including all labour, material, supporting grid system (members minimum 0.8 mm thick and galvanised as per IS 277) anchor fasteners for making suspension arrangement from RCC, providing openings for AC ducts, return air grills, insulation light fixtures, etc., all complete.( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	1500.00	750.00	450.00	300.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1609	<p>Providing and fixing stainless Steel false ceiling system in lineal/tile shape, approved colour Luxalon hunter douglas or approved equivalent, lineal pattern (closed type) of 100 mm nominal width , bright finish at all level, for all kind of works, consisting of 0.5 mm thick stainless steel sheet, along with galvanised supporting steel members exposed faces of galvanised member to be prepainted with regular modified polyester coating / super polyester coating minimum 20 DFT and roll formed stove enamelled 0.6 mm thick steel carrier, for fixing of lineal type panels by clip on arrangement, suspended from RCC slab / structural steel or catwalkway steel channel grid above with 4 mm (minimum) galvanised wires (rods), with special height adjustment clips, providing angle section of minimum 25 mm leg width along the perimeter of ceiling, including all labour, material, supporting grid system (members minimum 0.8 mm thick and galvanised as per IS 277) anchor fasteners for making suspension arrangement from RCC, providing openings for AC ducts, return air grills, insulation light fixtures, etc., all complete.( Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No D2301)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	SQM	100.00	50.00	30.00	20.00
1700	<p>RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge.</p>					
A1704	<p>Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over acoat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	RM	2000.00	1000.00	600.00	400.00
B1704	<p>Providing and fixing galvanised MS down take pipes of 200 mm dia- Medium quality as per IS:1239(part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over acoat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	RM	200.00	100.00	60.00	40.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
C1704	Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239 (part-I)with welded joints and provided with roof drain heads and complete with shoes bends, junctions, sockets, adapters, brackets and finished with anti corrosive painting over a coat or primer all complete.Galvanising shall be as per IS: 4736. The minimum mass of zinc coating shall not be less than 360 gms/sq.m. as per IS:6745. The zinc coating shall be smooth and shall be subjected to testing as per IS: 2633, for uniformity of coating. The zinc coating shall be free from all defects as per IS: 2629. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	10.00	5.00	3.00	2.00
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	50.00	25.00	15.00	10.00
1706	Providing and fixing UPVC down take pipes of 160mm diameter- Class 3 as per IS:4985 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	5.00	2.50	1.50	1.00
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
A1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorum/non expansive soil and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	10000.00	5000.00	3000.00	2000.00
B1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of 40 mm size rammed,consolidated in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected fine sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	1500.00	750.00	450.00	300.00
1802	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	500.00	250.00	150.00	100.00
1803	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	150.00	75.00	45.00	30.00
A1804	Providing and fixing weep holes in drains consisting of 75 mm dia HDPE pipe sleeves including sand (250sq x 150 mm thick), aggregates (250sq x 150 mm thick), 200mm dia geo-textiles (pasted on concrete surface) etc. all complete as per specifications, drawings and guided by engineer-in-charge. (item is inclusive the cost of materials like HDPE pipe, sand, aggregates, etc.).	EACH	1500.00	750.00	450.00	300.00

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**PROJECT: Various project sites of BHEL across India**

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1807	Anti termite chemical treatment of soil with Chlorpyriphos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment). Drilling 12mm dia hole @300 c/c using material one liter per hole.	SQM	2750.00	1375.00	825.00	550.00
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	200.00	100.00	60.00	40.00
1809	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	50.00	25.00	15.00	10.00
1810	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	50.00	25.00	15.00	10.00
1811	Construction of below ground earthing system earth electrodes as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items & steel shall be supplied by BHEL free of cost.)	NO	50.00	25.00	15.00	10.00
1812	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. ( Excavation and backfilling only will be paid under applicable BOQ items& steel shall be supplied by BHEL free of cost.)	NO	50.00	25.00	15.00	10.00
1813	Providing Earthing pit as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	NO	50.00	25.00	15.00	10.00
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	NO	50.00	25.00	15.00	10.00
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	25.00	12.50	7.50	5.00
A1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 610 g/sqm etc. all complete.	Kg	250.00	125.00	75.00	50.00
1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	1350.00	675.00	405.00	270.00
1823	Providing and laying cinder filling in the toilets,roads,etc complete as directed by engineer in charge.	CUM	25.00	12.50	7.50	5.00
1827	Anti weed chemical treatment of soil with suitable chemical etc all complete.	SQM	20000.00	10000.00	6000.00	4000.00
1849	Providing 50mm thick premix carpet surfacing laid to slope in two layers 30mm and 20mm respectively with 12mm downgraded stone chips mixed with 80/100 grade bitumen @ 52 Kg/Cu.M including compaction etc. all complete.	SQM	100.00	50.00	30.00	20.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
1850	Providing 50mm thick anti corrosive layer laid to required slope consisting of clean & well graded coarse sand mixed with A90 grade bitumen for softening point upto 45 degree Celcius or A65 grade bitumen for softening point above 45 degree celcius as per IS: 73 or its equivalent quality 8 to 10% by volume and rolled or compacted all complete.	SQM	100.00	50.00	30.00	20.00
1851	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	25.00	12.50	7.50	5.00
1852	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	50.00	25.00	15.00	10.00
1853	Providing, laying and fixing rails and guide rails in concrete for transformer, rail track(52 kg/m) including cutting of rails, joining of rails, anchoring lugs etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	50.00	25.00	15.00	10.00
A1860	Providing and installation of Bio-Toilet near all the modular worker's sheds/accommodation etc all complete as per specification.	Nos	10.00	5.00	3.00	2.00
A1862	Supplying and installation of pipes in concrete / Duct bank for all kind of works, including setting material in concrete, layout, cutting, forming, grinding, jointing etc. all complete as per specification and as guided by engineer-in-charge for the following: (Concrete, Reinf. paid separately)					
a	200 mm dia HDPE Pipes	RM	1000.00	500.00	300.00	200.00
b	200 mm dia PVC pipe ISI mark 6 Kg/cm2	RM	200.00	100.00	60.00	40.00

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ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A1864	Providing and fixing Semi Unitised STRUCTURAL GLAZING to fixed panels with no aluminium section exposed to outside and only glass panels with silicon joint visible from outside. The system specially designed with aluminium sections of grade 63400 WP IS: 733 and IS: 1285 pure polyester powder coated 50- 60 microns make; Akzo Nobel applicator only in approved colour with mullion fixed to beams / columns through adequately designed MS powder coated. The member and bracket shall be fixed with appropriate bolts and expansion fasteners, so as to withstand the dead load of the structural glazing as well as stresses due to wind pressure. The Structural glazing system shall be designed as per BIS code for required wind pressure IS: 875 part III (the system must passed the proof test at 1.5 times design Wind pressure without any failure), with as per the prevailing site conditions and building profiles.), including functional design of the aluminium sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)- cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation& drainage and protection against fire hazard including, Fabrication and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers and use of aluminium section alloy as per IS : 8147. System design to strictly consider for thermal movements, air infiltration, water penetration, seismic movement and structural movement, submit the calculation for review and approval of shop / fabrication/shop drgs, cutting plan, from BHEL.Silicon sealant structural grade and weather grade shall be GE/Dow corning or Equivalent.The contractor shall submit structural stability report of the structural glazing system from a consultant to be get approved by the engineer incharge.Providing and fixing G.I. flashing at soffit level /sill level made out of 1.5mm thick G.I. Sheet with powder coated bent to required profile and shape to seal the soffit area.Openable glazing panel where ever required shall be with two point locking with friction stays, as per detail design requirement,provided with approved hardware of Dorma/Gieeze or equivalent make, all	KG	200.00	100.00	60.00	40.00
A1865	Providing, fixing and Fabricating shadow box of required size and shape, for fixing in the spandrel portion of the structural glazing, in linear as well as curvilinear portions of the building by providing semi -rigid, inorganic, non-combustible fibre glass wool insulation 50 mm thick,conforming to IS: 8183 and BS: 3958 Part 5. The insulation layer shall have facing (factory bonded on surface # 1 of the fibre glass insulation layer), of black non-woven fibre glass tissue of nominal thickness 0.5 mm and nominal mass not less than 60 gm /sqm, made of randomly oriented glass fibres distributed in a binder by a wet-lay process including fixing 1.5mm thick solid aluminum sheet backing using, 6 mm thick cement board including SS rivets, nuts, bolts, washers etc complete.	SQM	200.00	100.00	60.00	40.00
2000	FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge.					

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A2001	<p>Supplying and erecting in position 1.95 m high PVC coated gavanised chain linked fencing of minimum 4 mm (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge.The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanised high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. GI barbed wire fencing of height of 450 mm confirming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings &amp; washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item A2008).</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	RM	2500.00	1250.00	750.00	500.00
A2003	<p>Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanised high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. Concertina of height of 600 mm at top of chain link fencing shall be provided and fixed with all accessories. Concertinal shall be from tensile serrated galvanised wire (HTSW) made with wire diameter of 2.5 mm which will be stretched to 6m and attached on two strands of galvanised HTSSW (high tensile spring steel wire) of 2.5mm dia by means of clips at 1m interval. These two HTSSW strands will be attached to the fence posts/ angles with 12 mm security fasteners. Cost to include for GI hook bolts, rings &amp; washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts etc. all complete. (Structural post shall be paid separately under ST No. A2008)</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	RM	1250.00	625.00	375.00	250.00
A2008	<p>Supply, fabrication and fixing of mild steel posts for fencing including painting with chlorinated rubber paint over a suitable primer etc all complete.</p> <p>Payment Breakup:                      a) Supply &amp; Receipt of material at site - 60%                      b) Execution &amp; Services Associated with the item - 40%</p>	MT	75.00	37.50	22.50	15.00

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**PROJECT: Various project sites of BHEL across India**

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Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
2009	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	30.00	15.00	9.00	6.00
2100	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks with flow rate less than 5 LPM (litres per minute) at 45 psi, including sockets, union, nuts etc all complete -15mm nominal bore.(Note: Flow rate of all faucets at 45 psi should be less than 5 lpm. The contractor should submit the cutsheets/ declaration from the manufacturers mentioning the same to Engineer in charge.)	NOS	75.00	37.00	23.00	15.00
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	NOS	75.00	37.00	23.00	15.00
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	NOS	50.00	25.00	15.00	10.00
b	50mm nominal bore.	NOS	50.00	25.00	15.00	10.00
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	125.00	62.50	37.50	25.00
b	20 mm nominal bore.	RM	50.00	25.00	15.00	10.00
c	25 mm nominal bore.	RM	50.00	25.00	15.00	10.00
d	50 mm nominal bore.	RM	25.00	12.50	7.50	5.00
B2104	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, confirming to IS 15778, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings shall be concealed, complete for internal works with sockets, unions, elbows, tees, nipples etc of approved manufacturer supreme,prakash,ajay pipes or equivalent and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	100.00	50.00	30.00	20.00
b	20 mm nominal bore.	RM	50.00	25.00	15.00	10.00
Ac	32mm nominal bore	RM	25.00	12.50	7.50	5.00
d	50 mm nominal bore.	RM	20.00	10.00	6.00	4.00
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	75.00	37.50	22.50	15.00

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**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
b	20 mm nominal bore.	RM	40.00	20.00	12.00	8.00
c	25 mm nominal bore.	RM	40.00	20.00	12.00	8.00
d	50 mm nominal bore.	RM	20.00	10.00	6.00	4.00
A2106	Providing and fixing 600mm x 900mm x 6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws , edge mounting with teak beading and minimum 12 mm thick plywood backing etc all complete.	EACH	40.00	20.00	12.00	8.00
2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with C.P. mounting brackets all complete.	NOS	40.00	20.00	12.00	8.00
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	NOS	75.00	37.00	23.00	15.00
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	NOS	75.00	37.00	23.00	15.00
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	35.00	17.00	11.00	7.00
A2113	Providing and fixing rotating type chromium plated brass shower rose with 15 or 20 mm inlet all complete.	NOS	25.00	12.00	8.00	5.00
B2113	Providing and fixing rotating type Emergency safety shower,conforming to IS 10592 latest code, head with water column of height 210 to 240 cm is provided from the standing level.water column provided with a minimum spray pattern diameter of 50 cm at 150 cm height from standing level and the centre of the spray pattern shall be located at least 40 cm from any obstruction or emergency. Shower head shall be so designed that it produces a straight water column. Emergency shower head shall deliver a minimum of 76 l/min of water and substantially dispersed throughout the pattern,complete with installation,with accessories etc all complete.	NOS.	5.00	3.00	1.00	1.00
2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.					
a	500 litres capacity	NOS	10.00	5.00	3.00	2.00
b	1000 litres capacity	NOS	15.00	7.00	5.00	3.00
c	2000 litres capacity	NOS	15.00	7.00	5.00	3.00
d	5000 litres capacity	NOS	10.00	5.00	3.00	2.00
2115	Providing and installing approved brand single tap water cooler of 150 L cooling capacity all complete.	NOS	15.00	7.00	5.00	3.00
A2116	Providing and fixing glass shelves 600mmx127mmx4 mm with chromium plated brackets all complete.	EACH	15.00	7.00	5.00	3.00
A2117	Providing and fixing metal storing cabinets 4(Four) Drawer Metal File Storage Cabinet with Central Locking System, Powder Coated (Approx size 54" X 18.5" X 27" Inch, Grey) all complete	EACH	15.00	7.00	5.00	3.00
A2118	Providing and fixing electric operated hand dryer with photo voltaic control.etc all complete..	EACH	15.00	7.00	5.00	3.00
A2120	Providing and fixing stainless steel (SS304 ) Grab bars min.32mm dia, min.38 inches long, U-Shaped, swing type adjusts both horizontally and vertically, barrier-free access for disabled, appropriate fittings and fixtures for toilets for handicapped etc. all complete.	EACH	75.00	37.00	23.00	15.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2201	Supply and fixing coloured glazed vitreous oval shape china wash basin 450x550mm conforming to IS: 2556 mounted over 18 to 20 mm thk granite beveled edge counter. The Basin shall be fitted with approved shape bib cock, photo-voltic control system for water control with flow rate less than 5 LPM (litres per minute) at 45 psi, CP brass chain with rubber plug, 40mm CP brass waste and bottle trap as per IS: 2556 with angle valve, taps, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required, necessary union including cutting of notch in granite counter slab etc. all complete as per specification	EACH	100.00	50.00	30.00	20.00
A2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to IS:2556 (part-5) with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, 40mm heavy duty CP brass waste bottle trap and 15mm CP brass pillar tap (hot and cold dual function) with elbow, operated level ISI marked, with necessary union, elbow, angle valve, tees, junctions, extension pipes complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	5.00	3.00	1.00	1.00
A2203	Providing and fixing stainless steel kitchen sink of size 610 x 510 mm, bowl depth 200 mm as per approved manufacturer with drain board of at least 450 mm length with trap, hot and cold water mixer, conforming to IS: 13983 including all fittings, necessary union, elbow, angle valve, tees, junctions, extension pipes etc. all complete.	EACH	5.00	3.00	1.00	1.00
B2203	Providing and fixing stainless steel Eye wash sink of size size 610 x 510 mm, bowl depth 200 mm as per approved manufacturer with drain board of at least 450 mm length with trap, water mixer, conforming to IS 10592 latest code including all fittings, necessary union, elbow, angle valve, tees, junctions, extension pipes etc. all complete.	EACH	4.00	2.00	1.00	1.00
A2204	Providing and fixing colour glazed vitreous china European type water closet of approved make conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC, dual flushing system) with valveless fittings, 2 way angle valve, with health faucet necessary C.P connections, water faucet etc all complete.					
a	Floor mounted	EACH	7.00	4.00	2.00	1.00
b	Wall mounted	EACH	60.00	30.00	18.00	12.00
2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete.	EACH	60.00	30.00	18.00	12.00
A2205	Providing and fixing colour glazed vitreous china Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete having flow rate of 6/3 LPF (litres per flush) or less at 45 psi.	EACH	100.00	50.00	30.00	20.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A2206	Providing and fixing white/coloured water efficient flat black glazed vitreous china urinals of size 610x375x390mm with photo voltaic control flushing systems of approved manufacturer simpolo, varmora or equivalent per IS: 2556(pt-6 sec-1) with flush pipes, lead pipes, gratings, traps and necessary C.P fitting etc. all complete as per specification having flow rate of 2 LPF (litres per flush) or less at 45 psi.	EACH	100.00	50.00	30.00	20.00
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	75mm dia pipes	RM	125.00	62.50	37.50	25.00
b	110mm dia pipes	RM	150.00	75.00	45.00	30.00
c	160mm dia pipes	RM	75.00	37.50	22.50	15.00
d	200mm dia pipes	RM	100.00	50.00	30.00	20.00
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following. Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	200mm dia	RM	200.00	100.00	60.00	40.00
b	300mm dia	RM	1500.00	750.00	450.00	300.00
c	450mm dia	RM	650.00	325.00	195.00	130.00
d	600mm dia	RM	50.00	25.00	15.00	10.00
e	900mm dia	RM	25.00	12.50	7.50	5.00
2209	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following. Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	150mm dia	RM	375.00	187.50	112.50	75.00
b	250mm dia	RM	50.00	25.00	15.00	10.00
c	300mm dia	RM	50.00	25.00	15.00	10.00
d	450mm dia	RM	25.00	12.50	7.50	5.00
e	500mm dia	RM	25.00	12.50	7.50	5.00
2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following: Payment Breakup: a) On Supply & receipt of material site - 50% b) On complete execution as per item description - 50%					
a	450mm dia	RM	50.00	25.00	15.00	10.00
b	600mm dia	RM	20.00	10.00	6.00	4.00
c	900mm dia	RM	20.00	10.00	6.00	4.00
A2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed manufacture confirming to IS:4111 etc all complete as per specification.	EACH	50.00	25.00	15.00	10.00
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	50.00	25.00	15.00	10.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:					
a	100x100mm P or S Type.	EACH	30.00	15.00	9.00	6.00
b	150x100mm P or S Type.	EACH	20.00	10.00	6.00	4.00
c	150x150mm P or S Type.	EACH	20.00	10.00	6.00	4.00
A2214	Providing and fixing Heavy duty CP brass floor traps size 100mm with stainless steel grating etc all complete.	EACH	50.00	25.00	15.00	10.00
A2216	Providing and installing approved brand single tap water efficient water cooler of 50 L cooling capacity all complete.	EACH	5.00	3.00	1.00	1.00
B2216	Providing and installing approved brand single tap water efficient water cooler of 80 L cooling capacity all complete.	EACH	5.00	3.00	1.00	1.00
A2217	Providing and installing approved brand single tap water efficient water cooler of 150 L cooling capacity all complete.	EACH	5.00	3.00	1.00	1.00
2218	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	2.00	1.00	1.00	
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	20.00	10.00	6.00	4.00
2221	Providing, laying spun CI pipes with conforming to IS 1536 complete for following.(Excavation,backfilling,concrete to be paid seperately)					
b	100mm dia	RM	50.00	25.00	15.00	10.00
c	150mm dia	RM	110.00	55.00	33.00	22.00
d	200mm dia	RM	200.00	100.00	60.00	40.00
e	250mm dia	RM	25.00	12.50	7.50	5.00
f	300mm dia	RM	25.00	12.50	7.50	5.00
2222	Providing and fixing HDPE pipes in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.					
a	Upto 75 mm dia	RM	10.00	5.00	3.00	2.00
b	100 mm dia	RM	10.00	5.00	3.00	2.00
c	150 mm dia	RM	30.00	15.00	9.00	6.00
d	200 mm dia	RM	10.00	5.00	3.00	2.00
2223	Providing and fixing vertical wall mounted water geysers/heaters(minimum 5 star rating) of required capacity including all connections & fittings(angular stop cock and brass connection pipes, etc.) all complete as per specification.					
a	15 Litres	Each	5.00	3.00	1.00	1.00
b	25 Litres	Each	8.00	4.00	2.00	2.00
A2224	Providing and fixing suitable water meter (Maximum Working Pressure 16 bar; Maximum Liquid Temperature 60°C; Connection Flanges according to ISO, BS 10, American Water works Association (AWWA) or others; Register water consumption in cum) on 50 mm domestic water inlet pipe	NOS.	7.00	4.00	2.00	1.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A2225	Supply, laying and jointing sand cast iron pipe conforming to IS: 1729 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.					
a	110mm dia pipes	RM	10.00	5.00	3.00	2.00
b	160mm dia pipes	RM	50.00	25.00	15.00	10.00
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
D2301	Fabrication(Site Welded as per specification), transportation from fabrication yard and erection of Mild structural steel (Grade designation E250) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 200 C for welding over 20 mm and upto 40 mm & 660 C for welding over 40 mm and upto 63 mm & 1100 C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete.(Rate shall be exclusive of surface preparation and primer). Payment Breakup:- 1) On Completion of Fabrication - 60% 2) On Completion of erection-25% 3) Balance on completion of alignment,welding etc.-15%	MT	250.00	125.00	75.00	50.00

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**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
F2301	Erection of shop fabricated (field connections will be welded type ) Mild structural steel (Grade designation E250), Medium and High Tensile structural steel (Grade designation E350 or higher) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading,transportation,unloading,collection of steel from stores, machining,welding, electrodes and other consumables, alignment, true to line, level, plumb & dimension,erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating,testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge. Payment Breakup:- 1) On Completion of erection-60% 2) Balance on completion of alignment,welding etc.-40%	MT	100.00	50.00	30.00	20.00
A2302	Extra over ST NO. D2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2 ) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as perASTM D520-00. Primer of minimum 70 micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	250.00	125.00	75.00	50.00
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100 micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	250.00	125.00	75.00	50.00

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ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0 ΔE) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	250.00	125.00	75.00	50.00
A2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel conforming to IS:2062 having hot dip galvanisation,surface preparation of shot blast cleaned to Sa 2 ½ finish or cleaned by acid pickling as per ISO 8501-1, in flooring, platforms, drain and trench covers, walkways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%					
a	Minimum galvanisation of 610 g/sqm	MT	50.00	25.00	15.00	10.00
2311	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade `C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%	KG	100.00	50.00	30.00	20.00
2312	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade `C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class `8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) On Supply & receipt of material at site - 60% b) On completion of alignment, fixing, etc. complete as per description/specification - 40%	KG	5000.00	2500.00	1500.00	1000.00
2313	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	20.00	10.00	6.00	4.00

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**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
2314	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
a	In erected position	MT	20.00	10.00	6.00	4.00
b	In fabrication yard	MT	20.00	10.00	6.00	4.00
2315	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	20.00	10.00	6.00	4.00
2321	Supply, fabrication and fixing of MS pipe hand railing of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete. Payment Breakup: 1. On Supply & Receipt at site - 60% 2. On completion of erection, alignment, welding, etc. complete as per description/specification - 40%	MT	5.00	2.50	1.50	1.00
A2322	Supply, fabrication and fixing of galvanised MS pipe hand railing (Min. 1000 mm high) of 32mm/40mm/50mm dia (Medium Class) including transportation, loading/unloading, painting etc. all complete. Payment Breakup: 1. On Supply & Receipt at site - 60% 2. On completion of erection, alignment, welding, etc. complete as per description/specification - 40%	MT	25.00	12.50	7.50	5.00
2400	ROAD WORKS: Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.					
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	1500.00	750.00	450.00	300.00
2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	500.00	250.00	150.00	100.00

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ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A2402	Supplying and filling with selected good earth of approved quality in layers not exceeding 300 mm loose thickness using excavated soil within a lead upto 1km soil and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	1000.00	500.00	300.00	200.00
2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	150.00	75.00	45.00	30.00
A2404	Providing & laying granular sub-base using close graded material conforming to specification, mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	CUM	1500.00	750.00	450.00	300.00
A2406	Providing & Laying water bound macadam sub base/base course with stone aggregate 53 mm to 22.4 mm size stone conforming to MORTH specification (Table 400-9) (IRC 19 -grading -3) mixing in a mechanical mix plant at OMC, carriage of mixed material to work site, for all leads & lifts, spreading in uniform layers of specified thickness on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications, drawings and directions of Engineer-in-Charge.	CUM	500.00	250.00	150.00	100.00
A2410	Providing & laying 40mm bitumen mastic wearing course over concrete pavement with industrial bitumen of grade 85/25 conforming to IS : 702, prepared by using mastic cooker and laid to required level and slope, including providing antiskid surface with bitumen fine grained hard stone chipping of approved size at the rate of 0.005 precoated cum per 10 sqm and at approximate spacing of 10 cm centre to centre in both directions, pressed into surface protruding 1 mm to 4 mm over mastic surface, including cleaning the surface, removal of debris etc. all complete as per specification, drawings and as per direction of engineer-in-charge. (Considering bitumen using 10.2% as per MORTH specification).	SQM	5000.00	2500.00	1500.00	1000.00
A2413	Supplying and laying 450mmx250mmx500mm deep precast concrete kerb stone of grade M25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	1000.00	500.00	300.00	200.00
B2413	Supplying and laying 300mmx250mmx150mm deep precast concrete kerb stone of grade M-25 with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	1000.00	500.00	300.00	200.00
A2415	Supply and laying 200mm dia R.C.C NP3 type Hume pipe in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	250.00	125.00	75.00	50.00

**Revised Annexure B**

**PROJECT: Various project sites of BHEL across India**

**Package Wise Quantities**

**SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
A2419	Providing and laying cement concrete of grade M35/M40 using 20 mm nominal size stone aggregate with including addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent, provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	1000.00	500.00	300.00	200.00
A2421	Providing & laying dry lean cement concrete of grade M10 with 20 mm nominal size graded stone aggregate over a prepared sub-base including compaction, finishing, curing etc all complete	CUM	750.00	375.00	225.00	150.00
B2421	Providing and laying of plain cement concrete of grade M15 using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	350.00	175.00	105.00	70.00
	<b>REINFORCEMENT</b>					
A2423	Providing and fixing in position MS dowel bar reinforcement including surface painted with epoxy, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	10.00	5.00	3.00	2.00
A2424	Providing, straightening cutting, bending, placing in position at any level, binding in position of steel reinforcement of mild steel reinforcements including cost of binding wire, labour, scaffolding transportation to & from stores etc all complete as per specifications, drawings and as directed by Engineer.	MT	1.00	0.50	0.30	0.20
	<b>MISCELLANEOUS</b>					
A2425	Providing & installation of bitumen impregnated fibre board of 20mm thickness conforming to IS 1838 as joint filler including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	RM	50.00	25.00	15.00	10.00
A2426	Providing and filling in position hot applied bitumen sealing compound (Grade A) of 20 mm thick conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	400.00	200.00	120.00	80.00
A2427	Providing and laying debonding strip/tape of specified thickness before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	1000.00	500.00	300.00	200.00
A2428	Providing & laying 75 mm thick precast interlocking concrete pavers of grade M35 of approved colour and pattern as per specification and recommendation of manufacturer.	SQM	1500.00	750.00	450.00	300.00
A2429	Providing and laying 20mm thick sand layer below concrete pavers including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	1500.00	750.00	450.00	300.00
A2430	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	3000.00	1500.00	900.00	600.00
A2431	Supplying, fixing and removing formwork for concrete road pavement complete as per specification and as directed by the engineer-in-charge.	SQM	100.00	50.00	30.00	20.00
	<b>PROVIDING T&amp;Ps ON RENTAL HIRING BASIS (CONSIDER WORKING TIME - 8 HOUR PER DAY)</b>					
T&P-1	Hiring of Poclain 200 having bucket capacity of 1 Cum with diesel and operator	Day	312.00	156.00	93.60	62.40
T&P-2	Hiring of JCB 4Dx with diesel and operator	Day	312.00	156.00	93.60	62.40
T&P-3	Hiring of Dumper having approx. 16 Cum of Capacity with diesel and operator	Day	624.00	312.00	187.20	124.80
T&P-4	Hiring of Vibro Roller having approx. 12 Tonne Capacity with diesel and operator	Day	312.00	156.00	93.60	62.40
T&P-5	Hiring of Dozer 80D with diesel and operator	Day	312.00	156.00	93.60	62.40

**Revised Annexure B****PROJECT: Various project sites of BHEL across India****Package Wise Quantities****SCOPE OF WORK:-**

Framework Agreement (Rate Contract) for Execution of Balance Civil, Structure and Architecture Works at various project sites of BHEL across India

ST NO	ITEM DESCRIPTION	UOM	Total QTY	Package-I Qty	Package-II Qty	Package-III Qty
T&P-6	Hiring of Boom Placer having 30 Cum Capacity with diesel and operator	Day	156.00	78.00	46.80	31.20
T&P-7	Hiring of Farana having 14 MT Capacity with diesel and operator	Day	312.00	156.00	93.60	62.40
	PROVIDING MANPOWER FOR MISCELANEOUS WORKS AT PROJECT SITES ON REQUEST OF BHEL SITE-IN-CHARGE (CONSIDER WORKING TIME - 8 HOUR PER MANDAY)					
MP-1	Deployment of experienced skilled manpower like Carpenter, Bar Bender/Binder, Mason, Painter, Fabricator, Fitter, Rigger, etc.	Manday	6240.00	3120.00	1872.00	1248.00
MP-2	Deployment of experienced un-skilled manpower for supporting above skilled manpower	Manday	12480.00	6240.00	3744.00	2496.00